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SANTEE RIVER BASIN: A REVIEW AND SUMMARY OF AVAILABLE INFORMATION ON PHYSICAL, CHEMICAL AND BIOLOGICAL CHARACTERISTICS AND RESOURCES

Environmental Protection Agency
Athens, Georgia

May 1973

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Environmental Protection Agency
Surveillance and Analysis Division
Athens, Georgia

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SUMMARY

In 1972, the State of South Carolina requested that the Environmental Protection Agency evaluate the potential effects of the Santee diversion alternative on the aquatic environment of the lower Santee River. To determine the adequacy of existing information on the Santee Basin, this comprehensive review of available data and reports was conducted.

There are seven monitoring stations located on the lower Santee River which have been collecting physical and chemical data for varying periods and intervals since 1952. The data from these stations documents the water quality of the river over that period of time.

In 1965, Bears Bluff Laboratory, Inc. submitted a study entitled "Biological Studies of Charleston Harbor, South Carolina, and the Santee River" to the Bureau of Sport Fisheries and Wildlife. This report covered four river systems--Ashley, Cooper, Wando, and Santee--intricately associated with this project. Briefly, the study included determination of extent and condition of oysters, fish, crab, shrimp, and plankton populations in these rivers.

The Geological Survey, in 1970, released a report entitled "A Reconnaissance of the Santee River Estuary, South Carolina," the principal purpose of which was to determine the chemical and physical characteristics of the water and relate these to the tidal conditions and freshwater inflow.

The South Carolina Wildlife Resources Department initiated a 5-year Anadromous Fish Survey of the Santee and Cooper River system in 1970. This survey not only encompasses the anadromous fish, but also the resident fish and aquatic vegetation.

In 1972, the U.S. Department of Agriculture released a voluminous report entitled "Santee River Basin Report," which is a very comprehensive report on all major aspects of the Santee River Basin.

A report of major contribution was the Fish and Wildlife report "A Fish and Wildlife Evaluation Report on Proposed Project to Reduce Shoaling in Charleston Harbor, South Carolina." This report analyzes the possible effects of rediversion of the river on the aquatic organisms of both river systems.

As a result of these and other reports listed in the references, it appears that existing information on the Santee Basin, the quality of the water of the Santee, and the extent and condition of aquatic organisms in the system is such that little could be gained from a further, limited study of the area.

INTRODUCTION

Increased sedimentation in Charleston Harbor since 1942 has been attributed to the Santee-Cooper hydroelectric project which diverted flows from the Santee River into the Cooper River Basin.

Prior to 1942, the inflow to Charleston Harbor was from three coastal streams--the Ashley, the Cooper, and the Wando--having a combined average flow estimated at less than 200 cubic feet per second (cfs). The average annual regulated flow in the Cooper was 18,000 cfs in 1965 (1). The load of silt carried by the diverted flows from the North Carolina and South Carolina Piedmont, together with changes in the freshwater-saltwater interface, has resulted in excessive levels of sedimentation in the harbor, with concomitant increases in ship channel maintenance dredging costs.

To reduce silting in Charleston Harbor and lower costs of maintenance dredging, the Corps of Engineers has considered several alternatives for diversion of flows away from Charleston Harbor. The two main possibilities being considered involve diversion of all flows above 3,000 cfs to either the lower Santee basin or to Prices Inlet.

The Santee Plan provides for an approach canal beginning 3.8 miles in Lake Moultrie, which will join an overland canal connecting to the Santee River near St. Stephens, South Carolina (Figure 24). Hydroelectric facilities will be located at about the midpoint of the canal. Discharge schedule for Wilson Dam will remain essentially unchanged. Average discharge from the St. Stephens powerhouse will be about 12,000 cfs, with a maximum of 24,000 cfs. As a result, the total flow in the Santee River downstream from the St. Stephens canal will be about 80 percent of historic flows. An average weekly flow of 3,000 cfs will be released from the Pinopolis powerhouse, but there will be significant flow extremes because of peaking operations.

The Prices Inlet Plan would involve a diversion dam with an offset navigation lock on the Cooper River just downstream from the Tee (Figure 24). A diversion canal will extend from the east branch of the Cooper River to the Atlantic Ocean at Prices Inlet. Dikes will be placed along the low areas of the Wando River and coastal marshes to contain discharge waters within the canal. Double jetties will extend into the ocean to help prevent shoaling and feedback of silt and fresh water into the marshes. Discharge schedules for Wilson Dam and Pinopolis powerhouse will remain essentially the same. All flows in the Cooper River, except for an average weekly flow of 3,000 cfs which must be provided for the Bushy Park industrial area, will be diverted into the Prices Inlet canal.

Either diversion plan would have an impact on the aquatic environment of Charleston Harbor and the lower Cooper River, as well as on the basin to which the flow is diverted.

In June 1966, the Federal Water Pollution Control Administration completed a report, prepared at the request of the Corps of Engineers, on the effects of diversion on water quality in Charleston Harbor (1).

In June 1972, the State of South Carolina requested that the Environmental Protection Agency evaluate the potential effects of the Santee diversion alternative on the aquatic environment of the lower Santee River. Accordingly, to determine the adequacy of existing information on the Santee Basin, a comprehensive review of available data and reports was conducted. This report presents a summary of available basin data and reports.

BASIN CHARACTERISTICS

Although the Santee River Basin covers approximately 40,663 square kilometers and lies in portions of both North and South Carolina, the major portion covered in this study consists of only that part of the basin which drains into the Santee River from Lake Marion's Wilson Dam downstream to the Atlantic Ocean. Obviously, there are times when the the entire basin must be alluded to in providing basic information or data which affects the lower basin.

Morphology

The Santee River Basin, located in North Carolina and South Carolina, is characterized by a dendritic drainage pattern. This drainage, which extends from the eastern slope of the Blue Ridge Mountains in North Carolina southeasterly to the coastal region of South Carolina, has an area of 40,663 square kilometers. The form factor (which is obtained using the formula: mean width = $\frac{\text{area}}{\text{axial length}}$) is 79.0 kilometers.

The portion of the basin downstream from Lake Marion to the Atlantic Ocean has an area of about 1,637 square kilometers. The form factor for this portion of the basin is 11.7 kilometers.

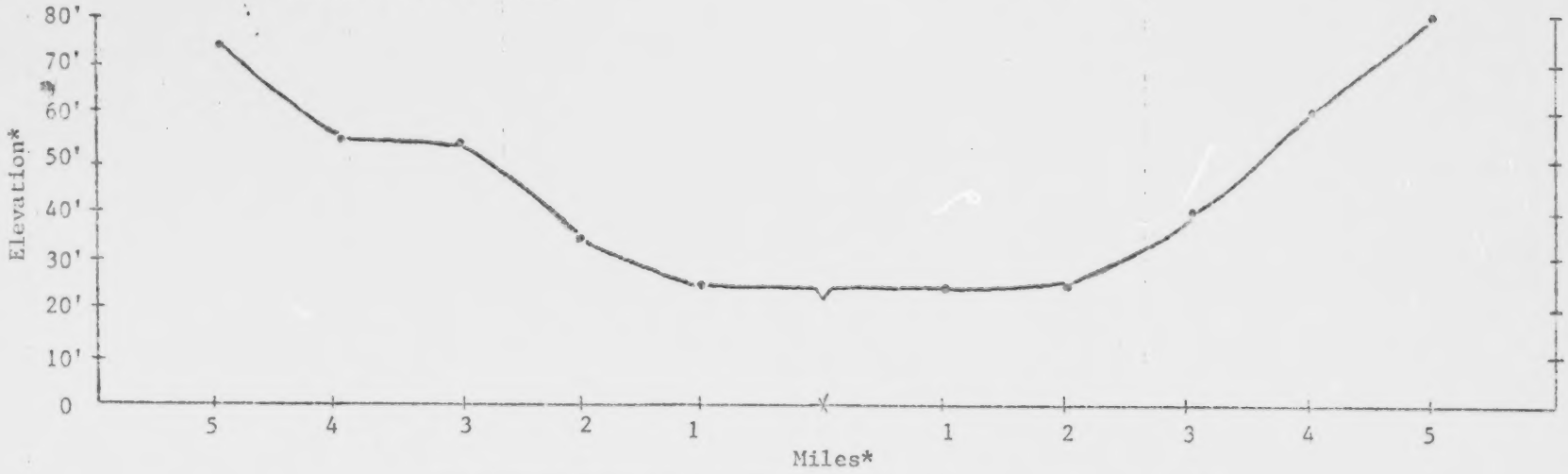
The slope of the basin is shown in Figures 1 and 2.

Geology

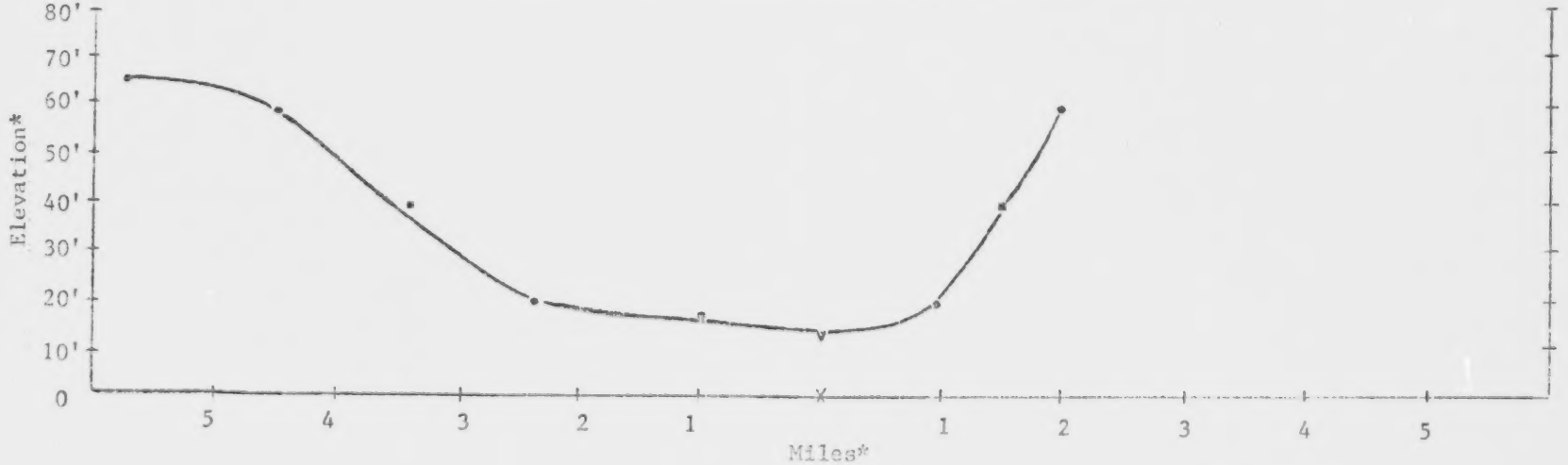
The lower Santee River Basin, in immediate proximity to the Santee River from Lake Marion to the mouth, is characterized by a belt of Santee limestone, black mingo, and Copper marl. These are all of Tertiary Age. Santee limestone is white to creamy yellow and is fossiliferous, partly glauconite limestone. Black mingo is white to yellow sand and bioclastic

* 1 meter = 3.2808 feet; 1 kilometer = 0.62137 miles

Scale - 3/4" = 1 mile



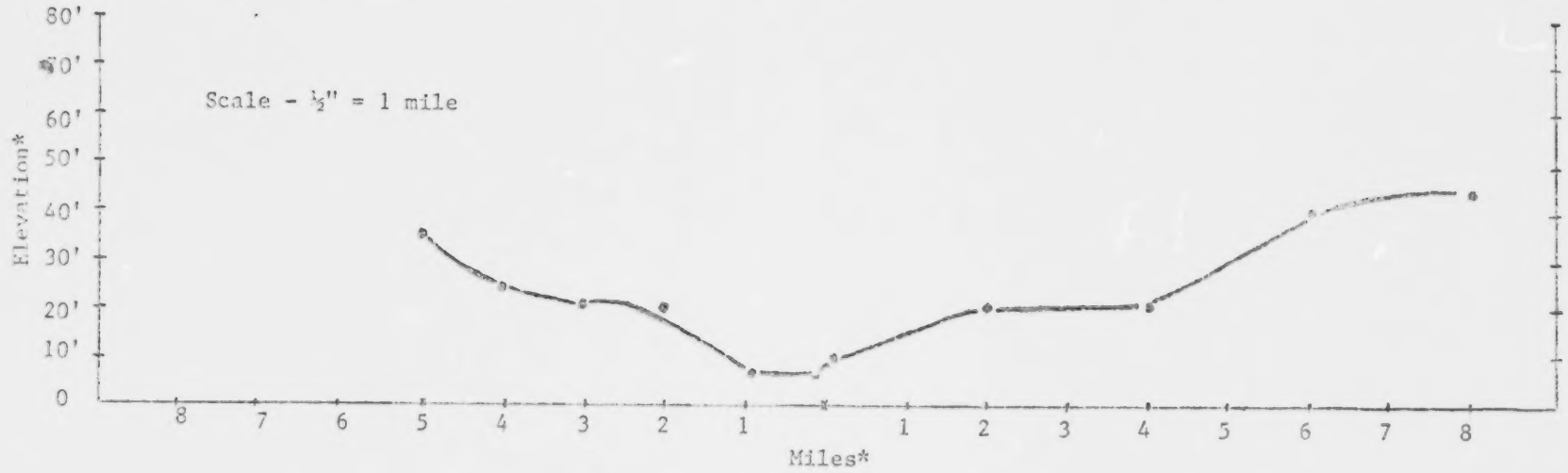
TRANSVERSE PROFILE - SANTEE RIVER BASIN NEAR RIVER MILE 65



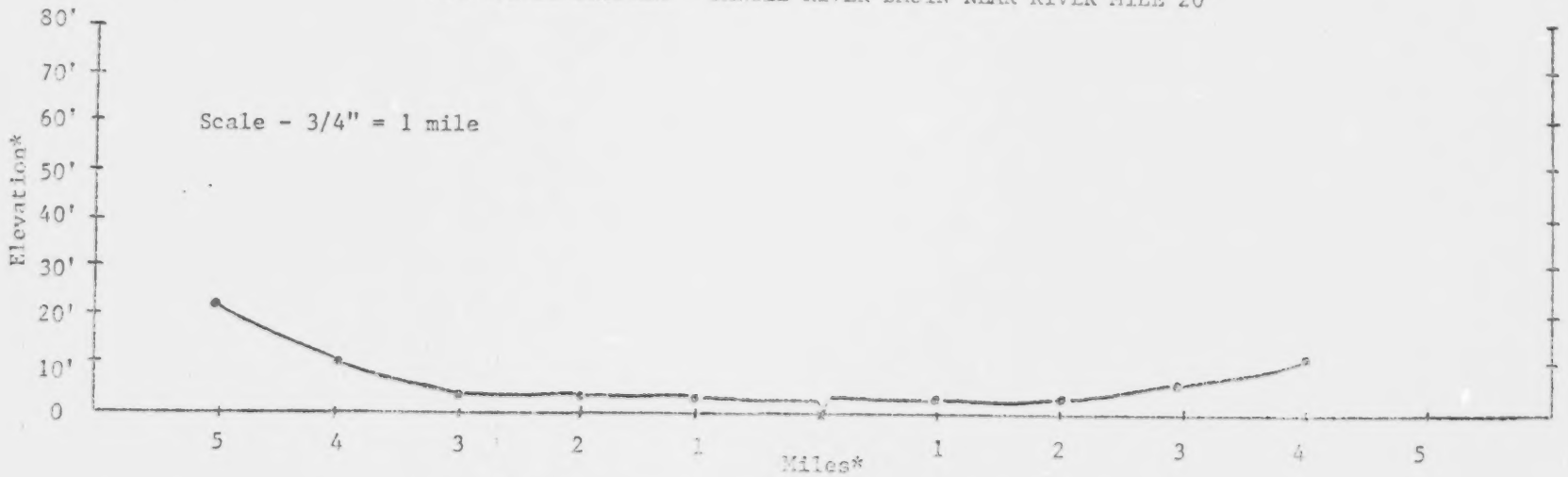
TRANSVERSE PROFILE - SANTEE RIVER BASIN NEAR RIVER MILE 45

Figure 1

* 1 meter = 3.2808 feet; 1 kilometer = 0.62137 miles



TRANSVERSE PROFILE - SANTEE RIVER BASIN NEAR RIVER MILE 20



TRANSVERSE PROFILE - SANTEE RIVER BASIN NEAR RIVER MILE 8

Figure 2

limestone underlain by gray to black shales. Cooper marl is composed of brown to green moris, phosphatic, and cherty reddish-yellow sands. The immediate coastal area is largely unconsolidated sand, clay, and shell of Quarternary Age (Figure 3).

Soil types in this same area are poorly drained and vary in texture from light to heavy (Figure 4)(2).

Climate

The climate of the lower Santee River Basin is mild and fairly uniform. The average annual temperature near the coast is 64°F. The average annual precipitation is about 45 inches (Figure 5).

Thunderstorms are common, but hailstorms and tornados occur infrequently. Snowfall has been recorded in all parts of the basin. The 10-year average climate conditions at Georgetown, South Carolina, are:

Annual total precipitation - 44.87 inches
Average annual temperature - 64.1°F
Mean daily maximum temperature - 76.2°F
Mean daily minimum temperature - 52.0°F

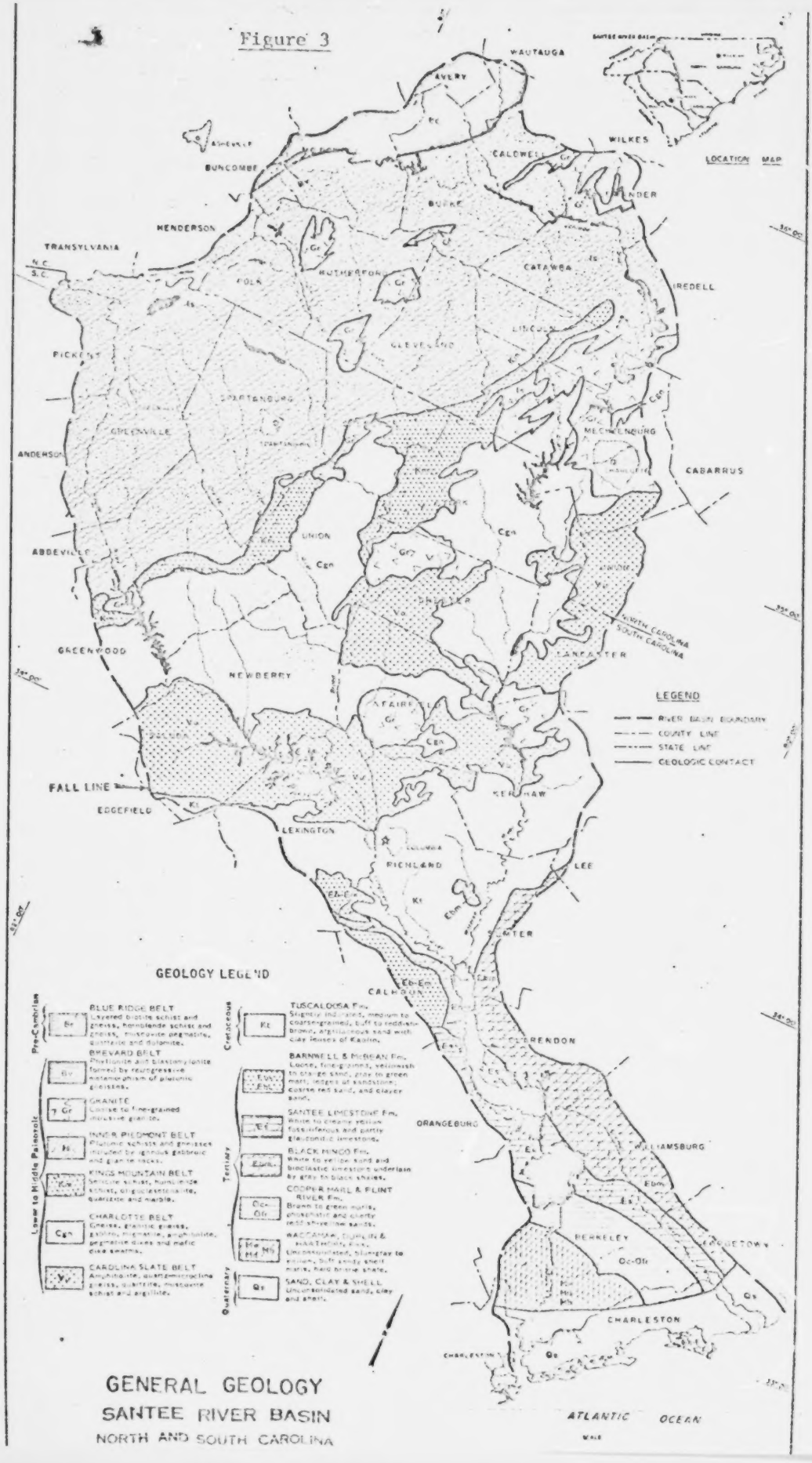
The growing season in the lower Santee Basin ranges from 240 days in the northeast corner to 290 days in the southernmost corner (Figure 6)(2).

Demography

The total population of the basin increased from approximately 1,691,000 in 1950 to 2,228,000 in 1970, or 32 percent. Population in the basin has been increasing at a faster rate than the whole of North and South Carolina. This is primarily because the basin contains most of the major metropolitan areas of South Carolina and the largest metropolitan area of North Carolina (2).

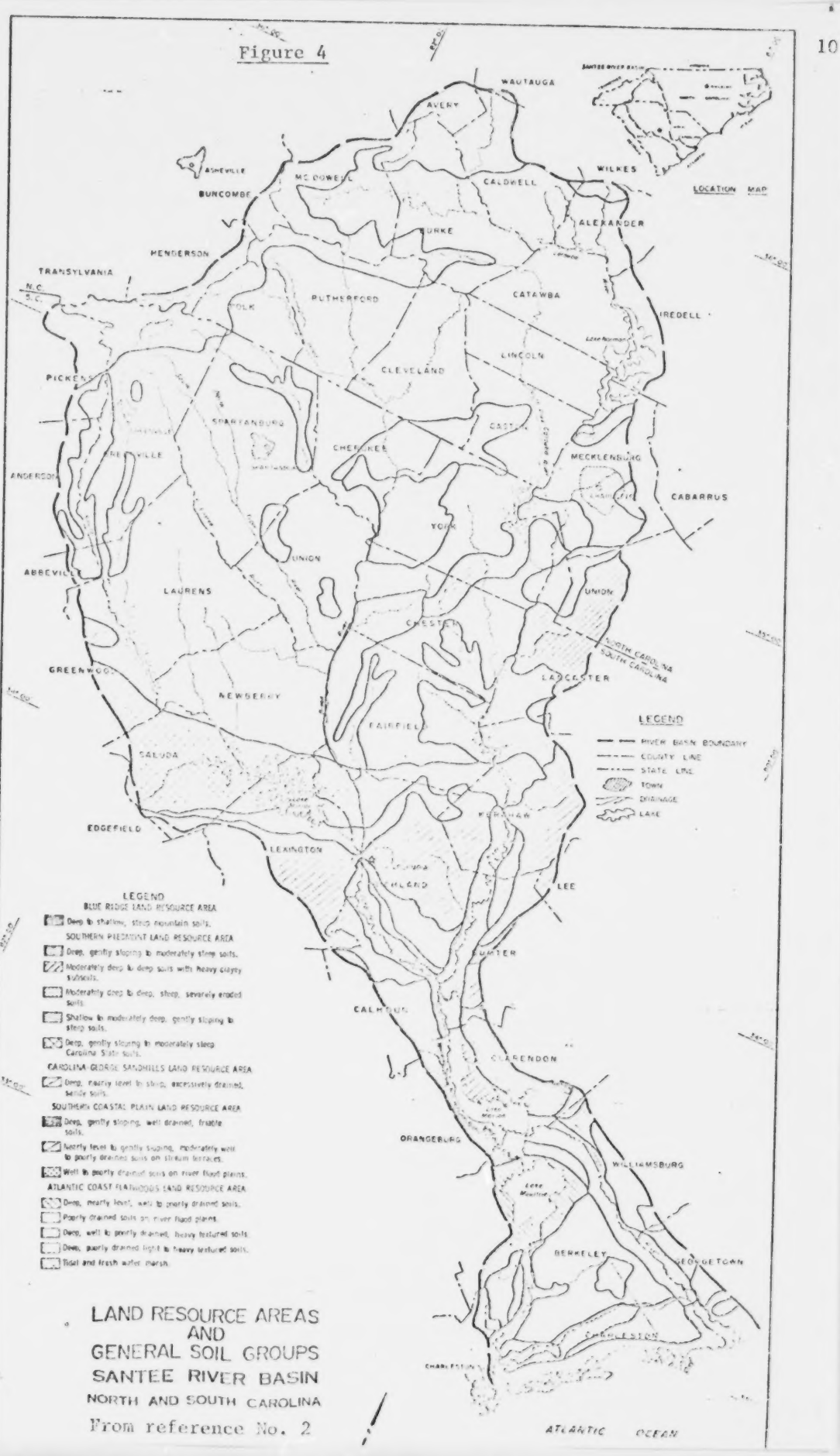
In 1970, population density averaged 133 people per square mile. Rural population declined from 57 percent of the total in 1950 to 48 percent

Figure 3



GENERAL GEOLOGY
SANTEE RIVER BASIN
NORTH AND SOUTH CAROLINA

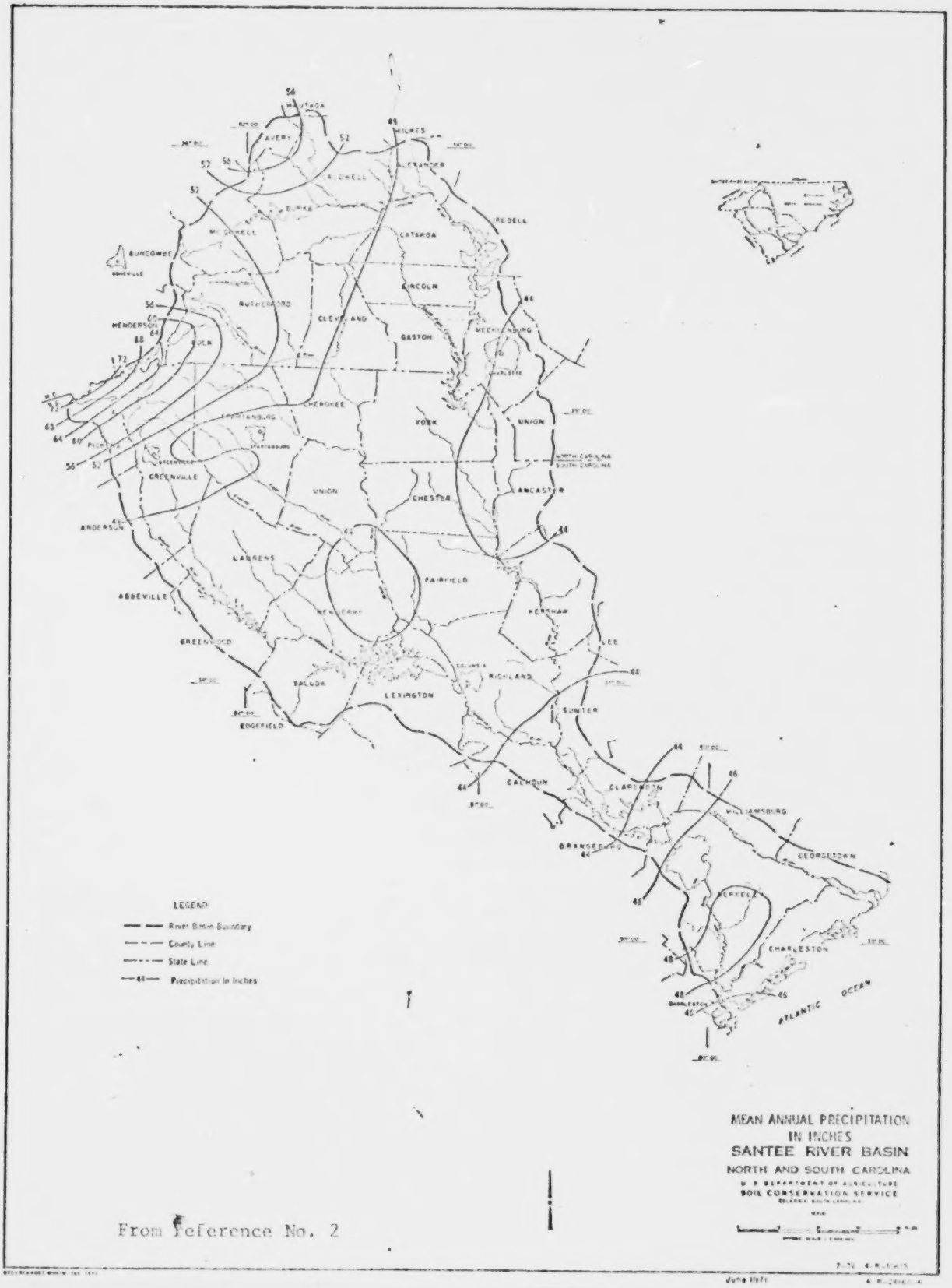
Figure 4



LAND RESOURCE AREAS
AND
GENERAL SOIL GROUPS
SANTEE RIVER BASIN
NORTH AND SOUTH CAROLINA

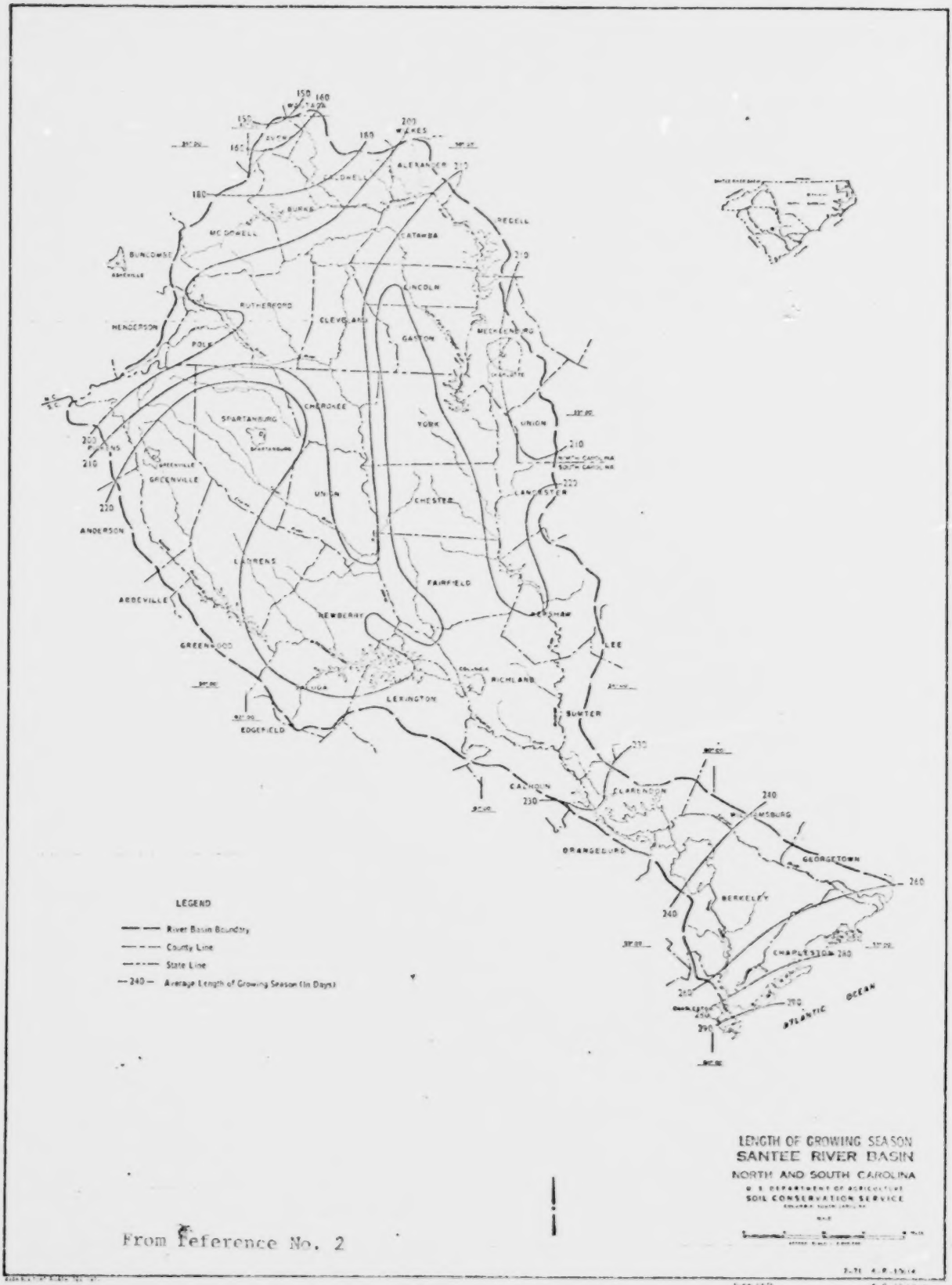
From reference No. 2

Figure 5



From Reference No. 2

Figure 6



From Reference No. 2

in 1970. Rural population is projected to remain essentially constant at about 1 million for the next 50 years. Urban population is expected to increase from nearly 1.5 million in 1970 to about 3.5 million in 2020.

	1960	1970	1980	2000	2020
Total -	1,927,000	2,228,000	2,800,000	3,547,000	4,359,000
Urban -	917,000	1,159,000	1,680,000	2,412,000	3,269,000
Rural -	1,010,000	1,069,000	1,120,000	1,135,000	1,090,000 (2)

Figure 7 shows the present and projected population of the counties in the lower Santee River Basin.

Land Use

The basin area contains 10,731,600 acres, of which 7,595,400 acres are in South Carolina; the remainder is in North Carolina. Based on the South Carolina Conservation Needs Inventories (4), 8,855,200 acres of the total acreage was agricultural and forest lands. Of this figure, 2,420,300 acres were devoted to cropland and pasture; 6,081, 400 acres were in woodland; and 353,700 acres were in other uses such as farmsteads, farm roads, and feedlots.

There are approximately 131,500 acres of marshland in the Santee River estuary. About 18,000 of these acres are classified as freshwater marsh. About 25,000 acres of marshland have been diked and water control established for waterfowl management. While some of the large landholders manage the area for their own use, others develop duck fields as an income source through the sale of shooting privileges.

The following is an excerpt from the Santee River Basin Report of USDA, 1972 (2):

> Ownership and use of the agricultural land resource is undergoing change. Forest land is transferring to commercial

SANTEE RIVER BASIN COUNTY POPULATION

1970 and 2000 (projected)

Figure 7

EPA Pamphlet - Population by County, Historic (1940-1970) and Projected (1980-2020) - July 1972

ownership. Some cropland which is submarginal for crop production is shifting to other uses. A good part of this acreage is being converted to woodland. Substantial agricultural lands are being converted to urban and built-up uses as the basin becomes more industrial and urbanized. Acreage devoted to crop production has decreased significantly.

Present shifts in land use are partially an adjustment from early settlement patterns and associated upland clearing operations to current conditions of rapid industrial development and subsequent urban expansion. The topsoil was eroded from many of the upland areas that were cleared and placed in continuous row cropping. A great deal of this acreage is submarginal for crop production.

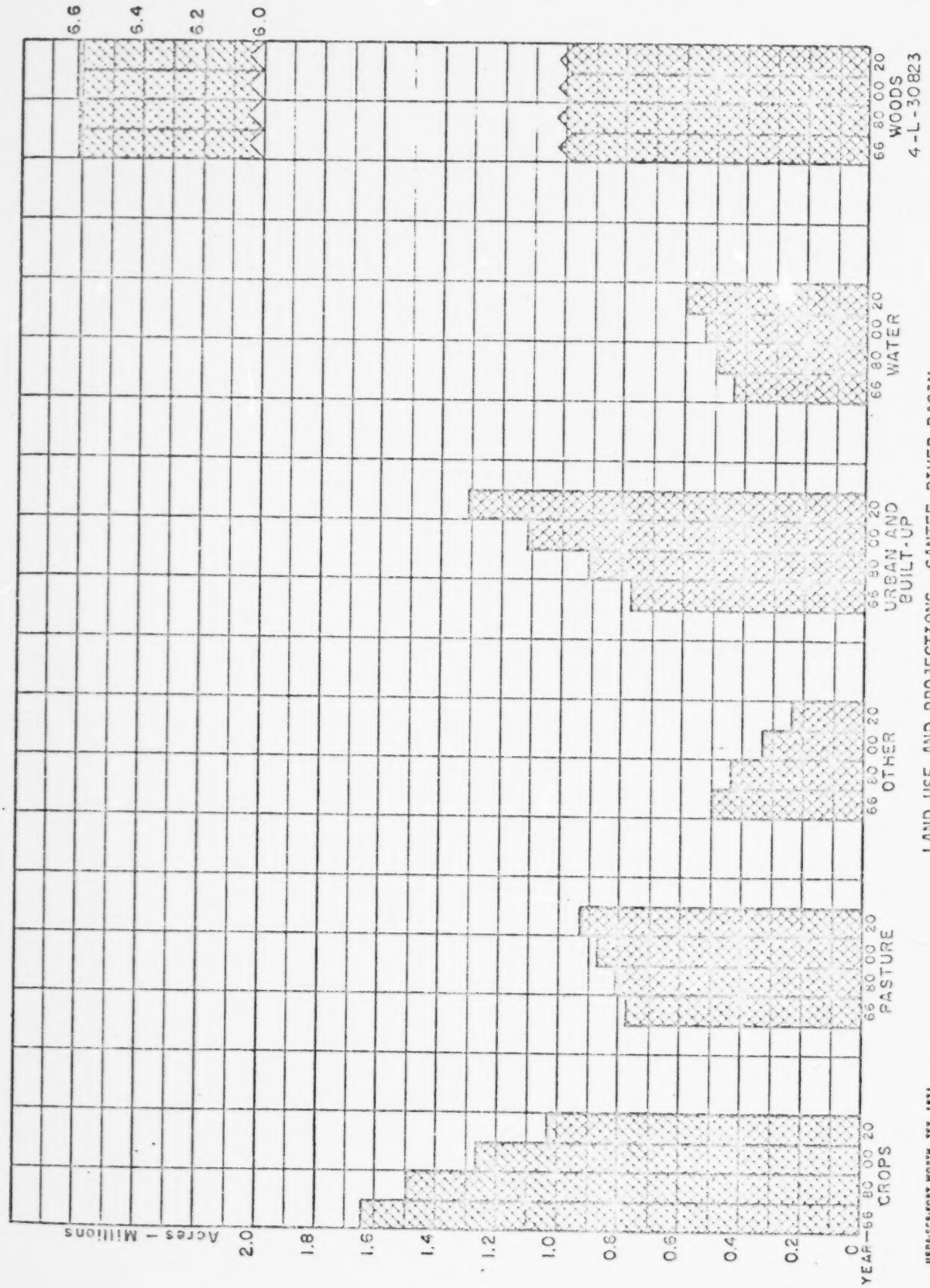
Technological advances have also influenced land use patterns. Improved crop varieties, larger and more efficient machinery, improved management, and the increased use of fertilizers and chemicals have allowed the agricultural sector to expand production faster than the demands of a growing population and export market. These advances, coupled with the development of flood protection, have permitted changes in many acres of marginal cropland. This situation is also occurring nationally. The impact of these influences becomes apparent as more historical data on land use and crop and livestock production are available.

Projections of major uses of land are shown in Figure [8].

Agriculture and Related Economic Activity

Farm Numbers and Size:... Farm numbers declined sharply between 1949 and 1964. In 1949, there were 86,072 farms in the

Figure 8



LAND USE AND PROJECTIONS, SANTEE RIVER BASIN

From reference No. 2

Basin, but by 1964, there were only 34,327 farms. The average size of farm increased from 75 acres to 120 acres during this same period. Not all of the changes in farm numbers can be explained by the increase in farm size. Between 1949 and 1964, the census definition of a farm changed, resulting in a reduction in farm numbers. A major part of the reduction in farm numbers, however, is associated with the consolidation of farm units....

The farm consolidation process can be expected to continue....

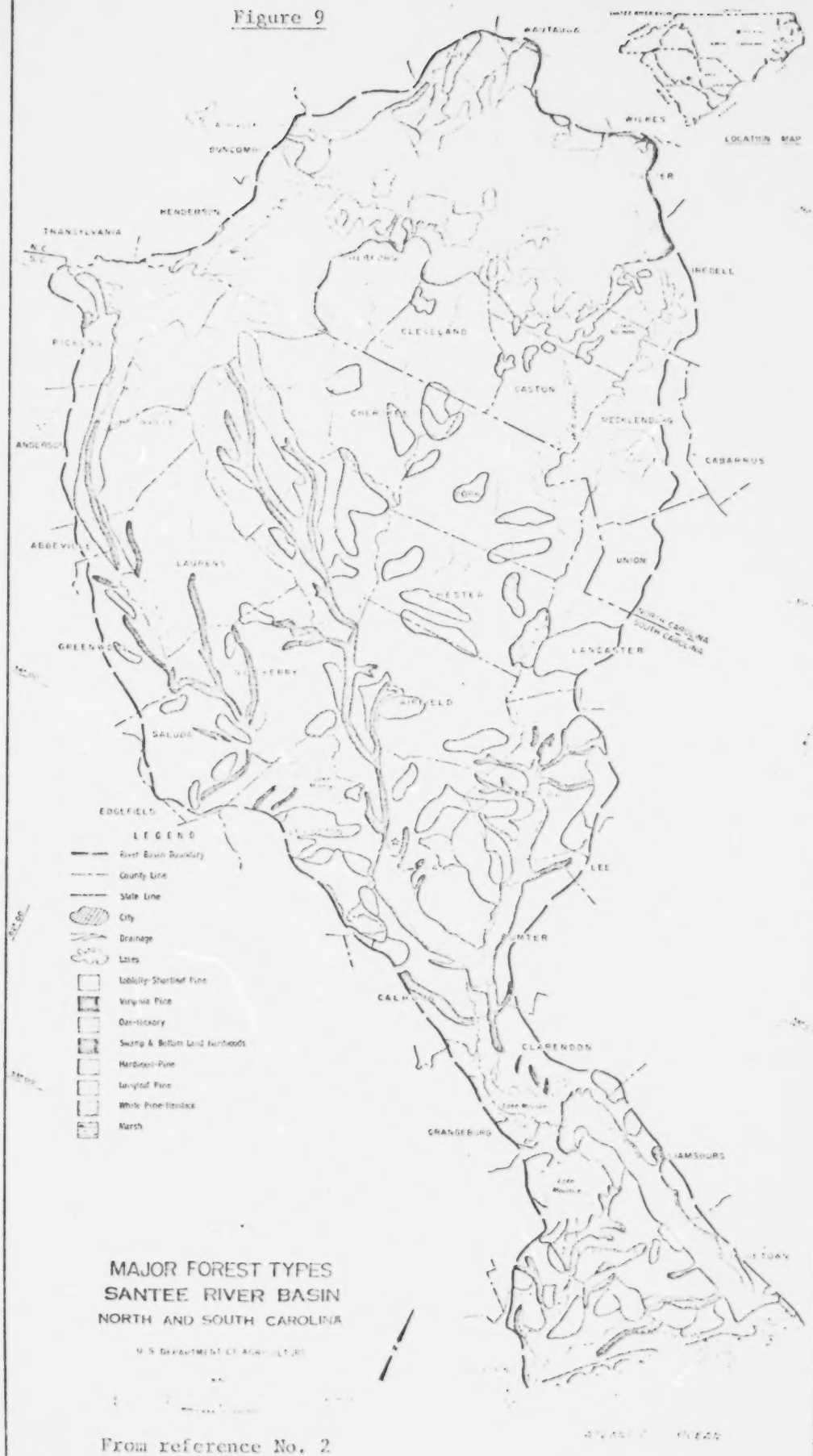
This change is both good and detrimental to the rural sector of the economy. It probably will improve economic returns to the larger farm units, but the situation for those forced from agriculture may be worsened....

Forest Resources and Related Economic Activity

The Santee Basin has about 6.5 million acres of forest land that is producing or capable of producing crops of industrial wood and not withdrawn from timber use by statute or administrative regulation. The area has a wide variety of species--ranging from the oak-hickory-white pines in the mountains, mixed hardwoods-Virginia, loblolly, and shortleaf pine of the Piedmont, and longleaf-loblolly and bottomland hardwoods of the lower Coastal Plains ("low country") as shown in Figure [9]. While the United States is about 33 percent forest, the Santee Basin has about twice this coverage, or 63 percent of the land area in growing timber (Figure 10).

Timber has long been a mainstay in the economy of the Basin. It was a big boost to the area's economic recovery after the

Figure 9



MAJOR FOREST TYPES
SANTEE RIVER BASIN
NORTH AND SOUTH CAROLINA

From reference No. 2

Figure 10

From reference No. 2

Civil War with the cutting of the original-growth timber. In recent years, many abandoned fields have been restored to growing timber. New forest industries such as pulp mills, furniture factories, and southern pine plywood plants have been established [Figure 11]. The Basin, with its rainfall, long growing seasons, good forest soils, and readily accessible markets, has a great potential for helping to meet the nation's needs for forest products.

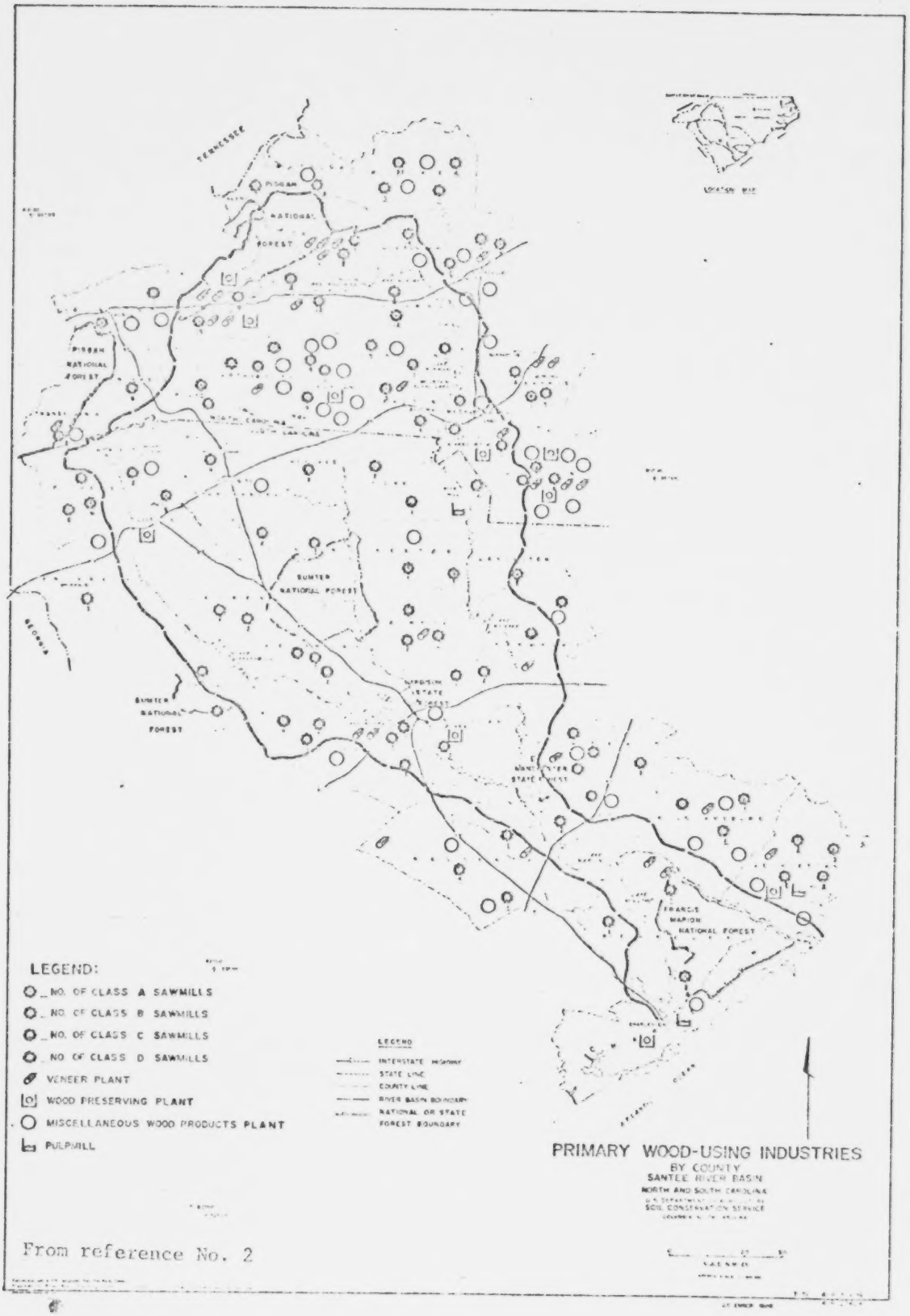
The volume of timber products harvested in 1966 was about 222 million cubic feet, with a stumpage value of 24 million dollars.

Extent of Natural Resources: Currently, the forest acreage including National Forests and other federal lands, is slightly over 6.5 million acres. This acreage is projected to remain relatively constant during the next 50 years.

The proportion of land forested varies from county to county, but most counties are 50-74 percent woodland. Figure 10 shows the percent of forested area for each county.

The upland types make up nearly one-half of all woodland area. The major types of forests are shown in Figure 9. The total volume of timber in 1966 was about 6 billion cubic feet of growing stock, including 16.5 billion board feet of sawtimber (2). Pines and other softwoods make up about 45 percent of the total volume in growing stock. Growing stock is defined as "live trees of commercial species qualifying as desirable or acceptable trees." The other 55 percent is in both soft- and hardwoods.

Figure 11



From reference No. 2

Mineral Industry: The mineral industry of the Santee River Basin is based principally on non-metallic rock and mineral materials, Figure 12 . Over the last few years, the value of annual production has steadily risen. The most important mineral commodities in 1970 in decreasing order of value were crushed and monumental stone, clays (including kaolin), sand and gravel, cement, vermiculite, kyanite, barite, feldspar, and pyrite (2).

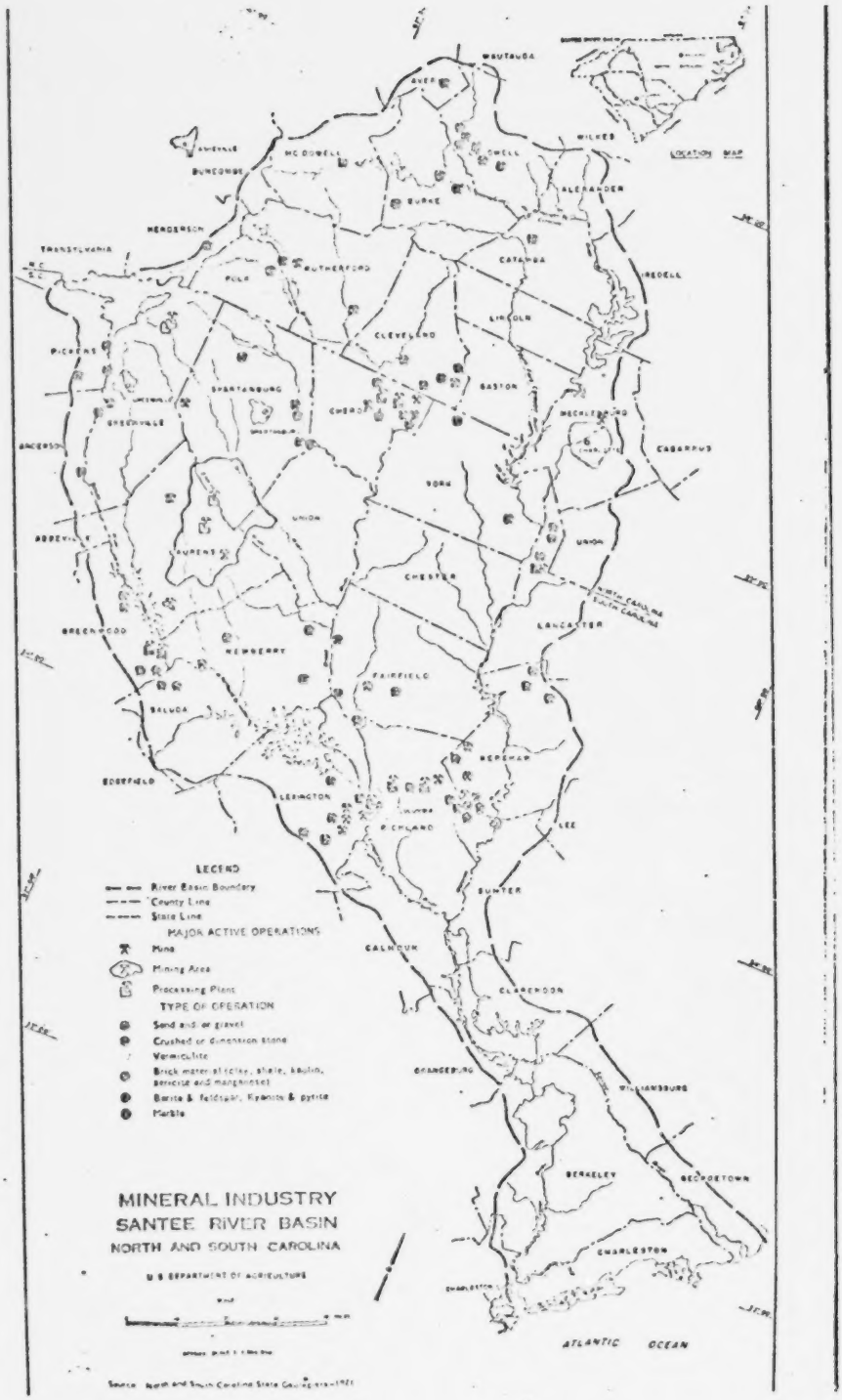
Vermiculite production within the South Carolina portion of the Basin places South Carolina second in national production of vermiculite. The one kyanite mine in the Basin, closed in 1970, formerly placed South Carolina third nationally in production of kyanite (2).

Extensive reserves of limestone are known in Orangeburg and Berkeley Counties. Small scattered marble deposits are known to occur in Piedmont rocks of Cherokee, Laurens, Cleveland, and Union Counties (2).

Crushed rock is produced in large quantities in Lexington, Richland, Fairfield, Greenwood, Spartanburg, Greenville, Pickens, Cherokee, Rutherford, Cleveland, and Caldwell Counties. Small scale production of kaolin occurs in Lexington and Richland Counties. The principal counties producing sand and gravel are Lexington, Sumter, Richland, Caldwell, and Burke (2).

North Carolina's 1963 value of mineral production within the Basin was over $10,000,000. This was 22 percent of the State's total. About 45 percent of the non-metallic mineral production of South Carolina is accounted for in 21 of the 28

Figure 12



From reference No. 2

counties wholly or partially within the Basin. In 1963, the value of production from the South Carolina portion of the Basin amounted to over $15,000,000 (2).

Industries at cities in the lower Santee River Basin are listed below.

Albany International - St. Stephen
Georgia Pacific Corp. Plywood Plant - Russelville
Georgia Pacific Corp. Particle Board Plant - Russelville
Highland Cleat & Veneer Co., Inc. - St. Stephen
Santee River Wool Combing Co., Inc. - Branch River
Santee Wool Combing Co. - Jamestown
School Timer Frocks Inc. Gort Industries - Hannahan
St. Stephen Knitwear Co. - St. Stephen
Umphlett, M. W. & Sons, Inc. - Russelville

STREAM CHARACTERISTICS

Morphology

The Santee River from Lake Marion Dam to the mouth is 87.4 miles (140.7 kilometers)(8). Figure 13 shows the longitudinal profile of the Santee River from Lake Marion Dam to the mouth. The gradient for this length of the river is 0.3 feet per mile (0.05 meter per kilometer).

Mean and maximum depths in defined reaches are given in Tables 1 and 2 and Figures 14 to 16. Data on river depth was obtained from the USGS publication "A Reconnaissance of the Santee River Estuary" (5). Depth is only available from river miles 0.0 to 15.0 on the South Santee, river miles 0.0 to 19.0 on the North Santee, and river miles 21.0 to 29.0 on the Santee River. The North Santee has been dredged for navigation purposes; thus, maximum depth is greater on the North Santee than the South Santee. Depths on the Santee River (RM 21 to 29) are similar to those of the South Santee (RM 0.0 to 15.0).

Streamflow

Source - The Santee Basin has an area of 16,768 square miles. Elevations range from 6,000 feet to sea level, from rugged Blue Ridge through the rolling Piedmont to the large flat areas of the Coastal Plain. The Santee is one of the largest U.S. river basins draining into the Atlantic Ocean. About 71 percent of the basin is in South Carolina, involving 28 counties. The remaining 29 percent involves 17 counties in North Carolina.

The Santee River Basin has an abundant supply of water as indicated by the average annual precipitation which ranges from 74 inches to 41 inches, with an annual average of over 48 inches. The total discharge from the basin into the Atlantic Ocean averages 12 billion gallons daily,

STREAM GRADIENT- SANTEE RIVER (LAKE MARION DAM TO MOUTH)

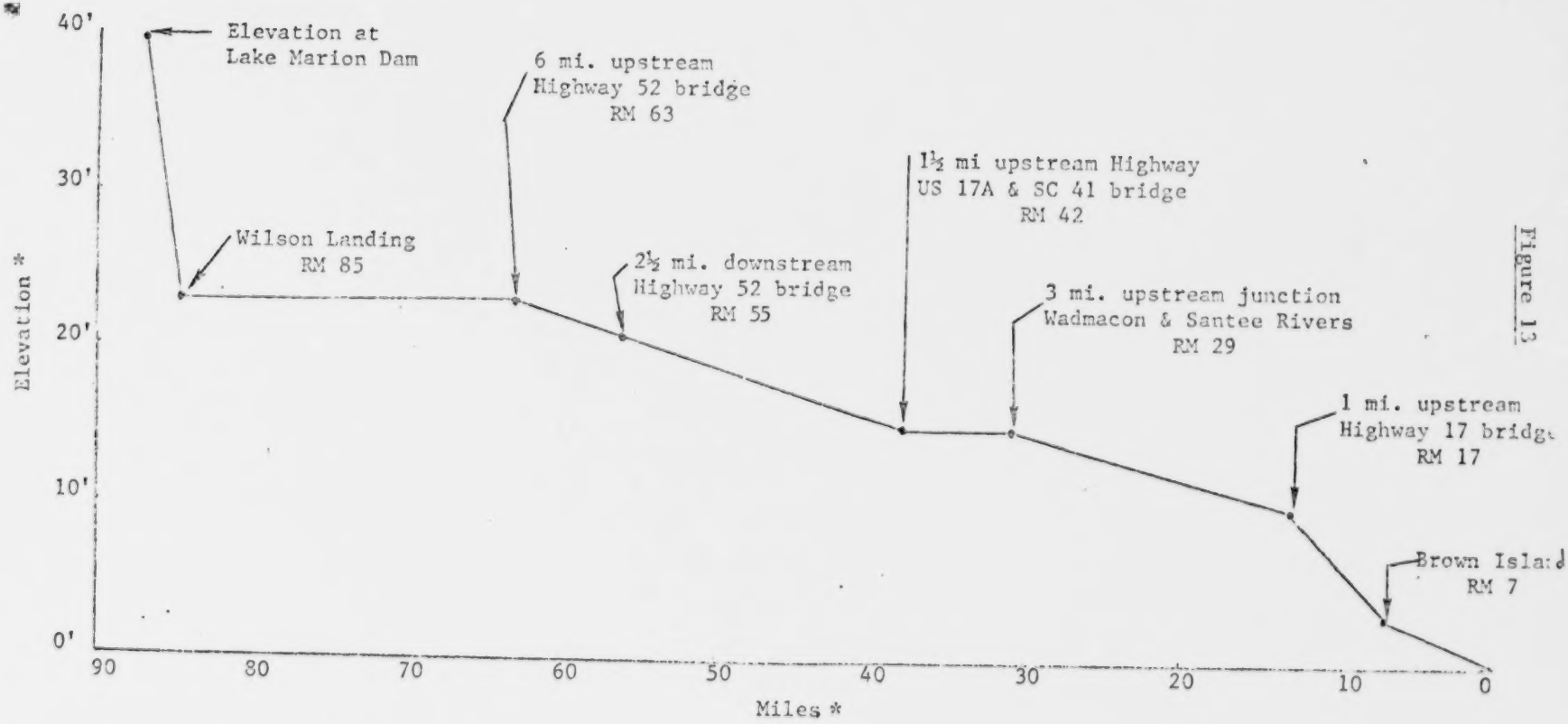


Figure 13

Scale - 1 inch = 10 miles

* 1 meter = 3.2808 feet; 1 kilometer = 0.62137 miles.

Table 1

MAXIMUM AND MEAN WATER DEPTH OF THE NORTH SANTEE RIVER

River Mile	Maximum Depth (feet)	Mean Depth (feet)
0.0	22.0	14.4
1.0	17.5	6.9
2.0	14.5	11.0
3.0	17.5	10.6
4.0	24.0	15.7
5.0	21.0	11.5
6.0	24.0	15.0
7.0	17.5	15.2
8.0	30.5	20.9
9.0	34.0	23.3
10.0	15.5	13.3
11.0	24.0	19.6
12.0	19.0	15.4
13.0	17.0	12.8
14.0	25.0	18.2
15.0	34.0	26.1
16.0	24.5	20.3
17.0	20.5	15.1
18.0	25.0	18.8
19.0	12.5	9.7

(1 meter = 3.2808 feet)

Table 2

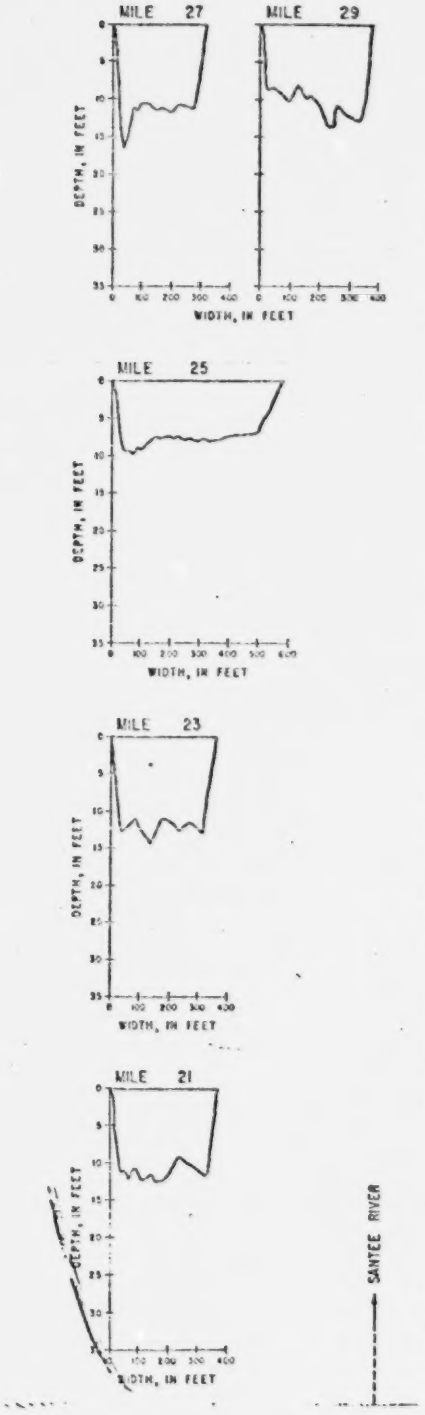
MAXIMUM AND MEAN WATER DEPTH OF THE SOUTH SANTEE AND SANTEE RIVERS

River Mile	Maximum Depth (feet)	Mean Depth (feet)
	South Santee River	
0.0	10.0	4.5
1.0	19.0	12.5
2.0	18.0	10.5
3.0	15.0	10.6
4.0	15.0	10.9
5.0	21.0	11.4
6.0	20.0	13.3
7.0	21.0	15.6
8.0	21.0	14.6
9.0	12.0	9.7
10.0	16.0	11.0
11.0	11.0	8.1
12.0	16.0	11.4
13.0	21.0	10.9
14.0	15.0	9.4
15.0	11.0	7.9
	Santee River	
21.0	12.0	10.2
23.0	14.0	10.8
25.0	10.0	6.9
27.0	17.0	10.1
29.0	14.0	9.9

(1 meter = 3.2808 feet)

Figure 14

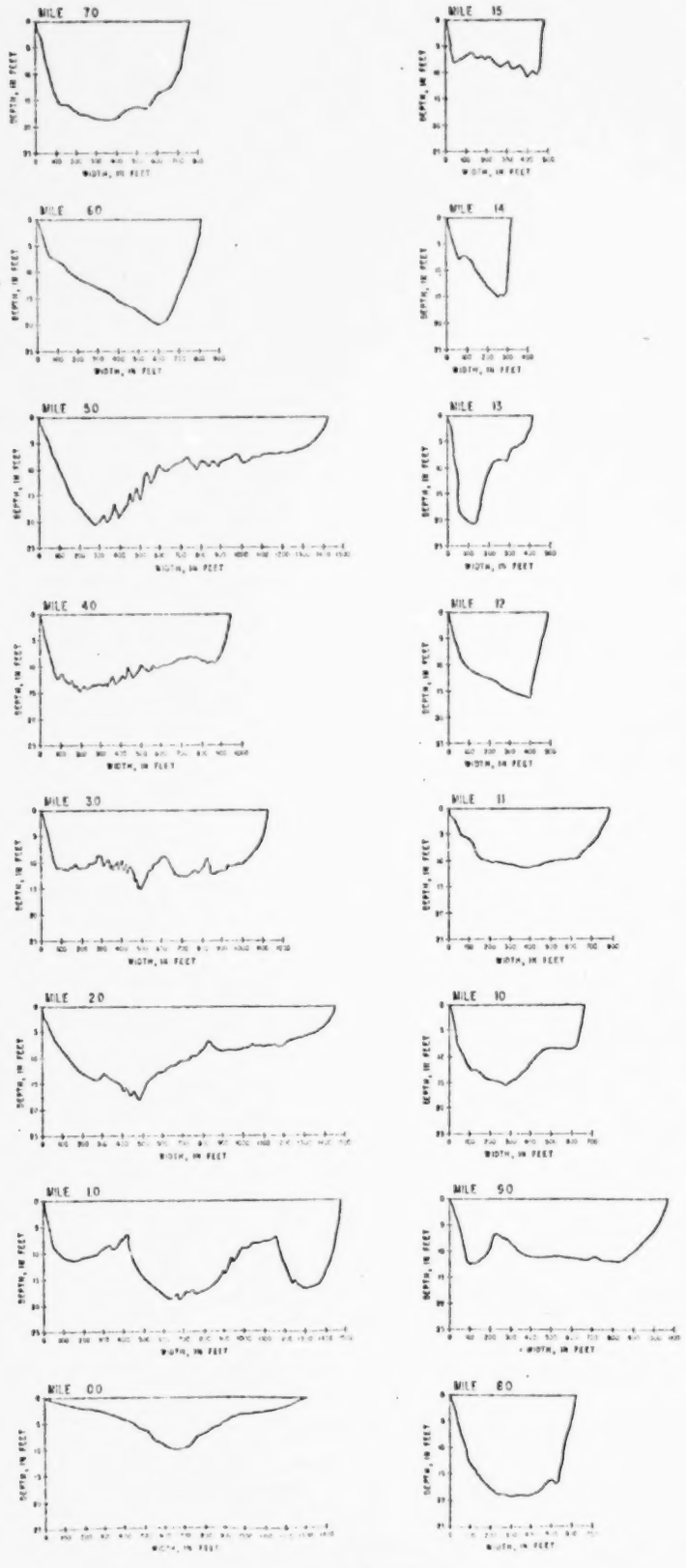
BOTTOM PROFILE OF THE SANTEE RIVER
RIVER MILES 21 TO 29



From reference No. 2

Figure 15

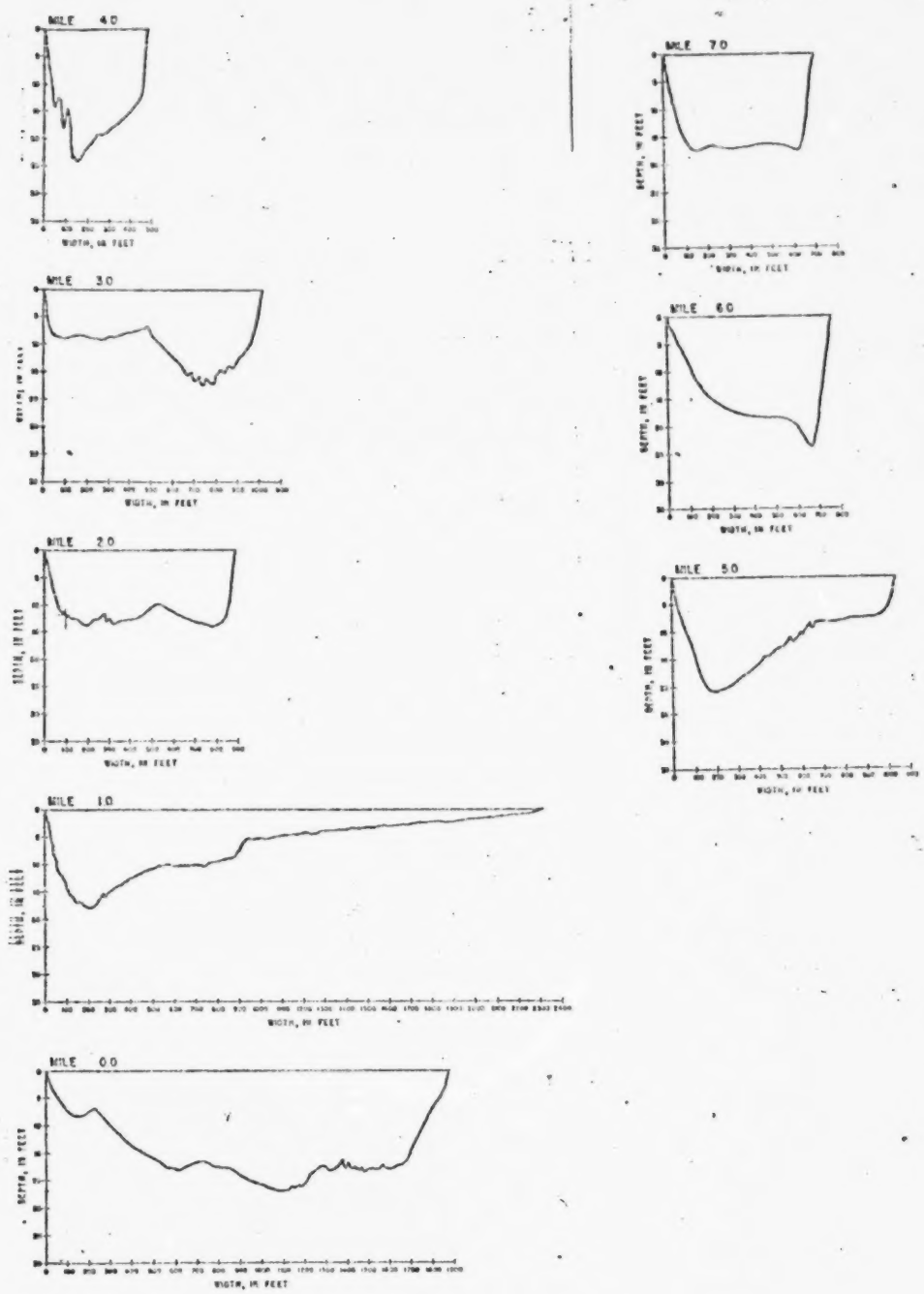
BOTTOM PROFILE OF THE SOUTH SANTEE RIVER
RIVER MILES 0 TO 15



From reference No. 2

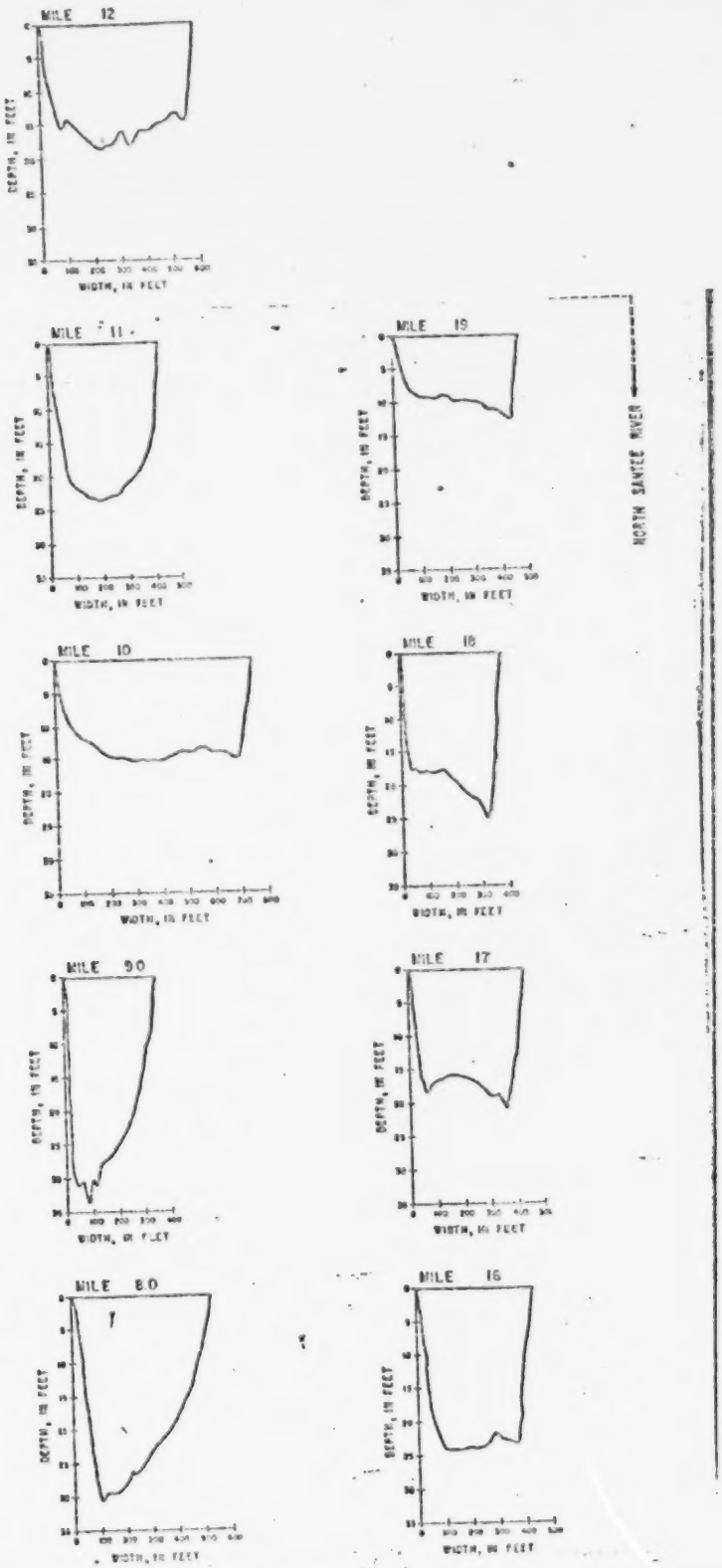
Figure 16

BOTTOM PROFILE OF THE NORTH SANTEE RIVER
RIVER MILES 0 TO 19



From reference No. 2

Figure 16
(Continued)



From reference No. 2

which is equivalent to 15 inches of runoff annually over the entire basin. Average runoff varies from a high of 40 inches in the mountains, to a low of about 10 inches in the Coastal Plain (Figure 17 shows geographical distribution of average annual runoff). Runoff variations are influenced by rainfall, soil characteristics, and vegetation. From their source in the Blue Ridge Mountains, clear, cold waters flow into small streams. These streams add their waters to main rivers flowing rapidly from the mountains through the Piedmont area. As the rivers cross into the Sandhills, the topography drastically flattens, and velocities decrease appreciably. The waters finally become slow and sluggish as they continue their journey through the flat, swampy Coastal Plain. Finally, the waters enter the Atlantic Ocean. The major rivers in the system include the Catawba, Broad, Saluda, Congaree, and Wateree (Figure 18).

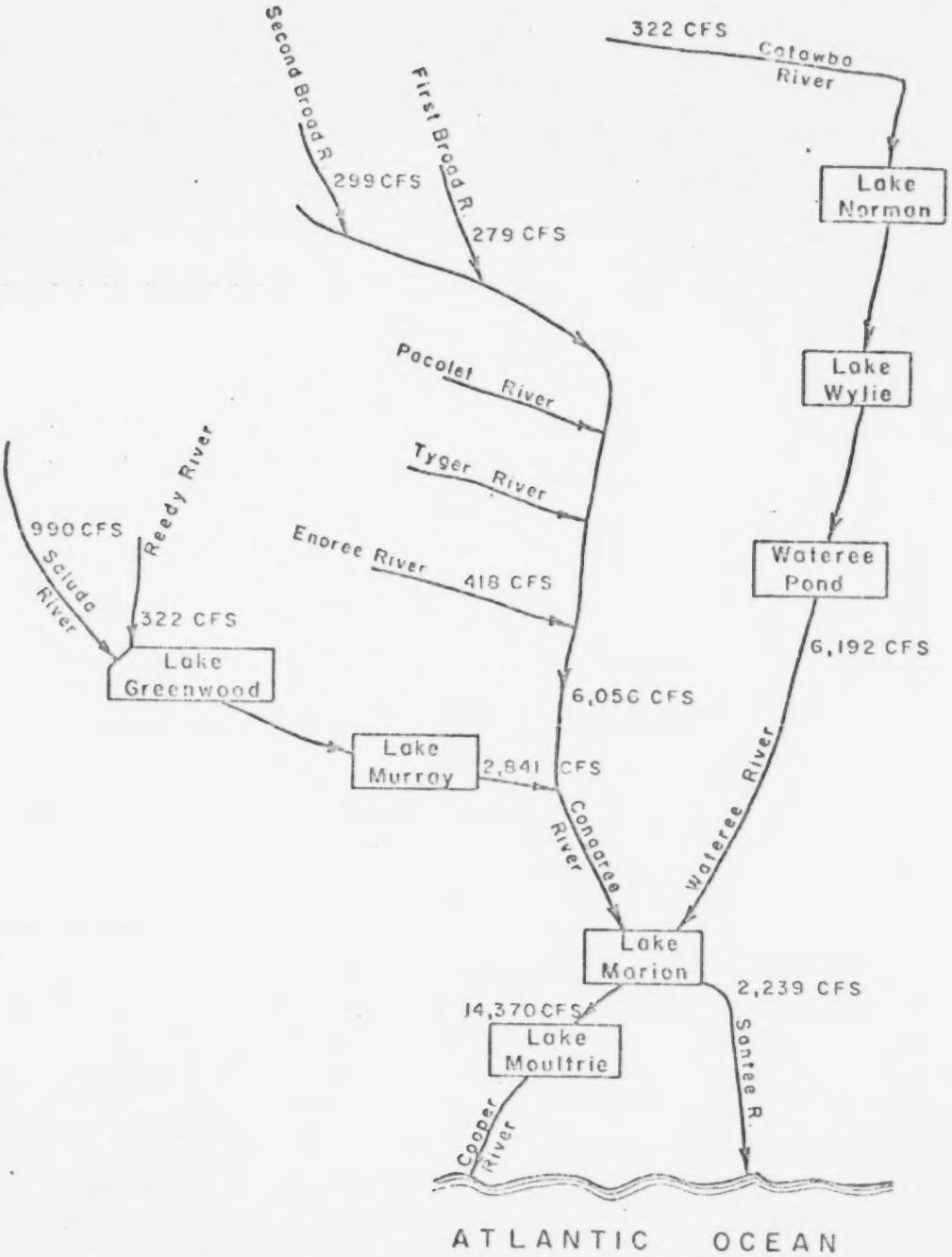
The Catawba River rises in the Blue Ridge Mountains in western North Carolina about 20 miles north of the headwaters of the Broad River and flows easterly for about 80 miles, then southerly for about 120 miles to Big Wateree Creek, a small tributary entering from the west. The conjuncture is within the backwater of Wateree Pond. From the Wateree Dam, the Wateree River flows generally southerly on a winding course for about 70 miles to join with the Congaree River forming the Santee River. Major tributaries of the Wateree are John River, South Fork, Catawba, and Sugar Creek.

> The headwaters of the Broad River originate on the eastern slope of the Blue Ridge Mountains near Chimney Rock, North Carolina. The river follows a southeasterly course for 166 miles to its junction with the Saluda River to form the Congaree River at Columbia, South Carolina. Eight power dams are located on this

Figure 17

From reference No. 2

Figure 18



AVERAGE DISCHARGE FOR SELECTED STREAMS,
SANTEE RIVER BASIN

4-L-30819

From reference No. 2

river. Principal tributaries within the Broad River watershed are the Green, Pacolet, Tyger, and Enoree Rivers.

The Saluda River is formed in northwestern South Carolina by the confluence of its north and south forks, which rise near the North Carolina border. It flows southeasterly about 145 miles to its junction with the Broad River.... Reedy River and Little River are the largest tributary streams of the Saluda.

The Congaree River, formed by the confluence of the Broad and Saluda Rivers, near the fall line, flows southeasterly about 50 miles to its junction with the Wateree River to form the Santee River. There are no significant tributaries to the Congaree River.

From the confluence of the Congaree and Wateree Rivers, the Santee River flows 143 miles southeasterly through the Coastal Plain and enters the Atlantic Ocean about 45 miles northeast of Charleston, and about 10 miles south of Winyah Bay. The upper 56-mile section is inundated by Lake Marion, formed by the construction of the Santee Dam. The lower 18-mile section is divided into two channels known as the North Santee and the South Santee Rivers. The north route is the primary navigable channel. The channels through the ocean entrances are shallow, shifting, and tortuous and have not been improved. The North Santee is connected with Winyah Bay and other coastal harbors by the Atlantic Intracoastal Waterway, which crosses the river at about mile five (7).

Ground Water: The Santee River contains abundant ground water resources which are virtually untapped.

In the Piedmont, precipitation is retained in regolith which averages 50 feet in thickness. Water from the regolith is released into the underlying hard rock. Planes of schistosity, fractured quartz veins and dikes are also sources of ground water. The major source of ground water in the Coastal Plain are aquifers of Tertiary and Cretaceous Age. The Tertiary formations tapped are the Santee Limestone and the Midway or Black Mingo Sands. The principal Cretaceous aquifer is the Tuscaloosa formation.

Generally, the ground waters locally in the Piedmont are of excellent quality. However, locally ground water in the Basin in Cherokee County appears undesirably high in iron content. The type of rock tapped effects the water quality. Water flowing through mafic rocks generally is moderately hard, high in iron, and has a slightly basic pH. Water flowing through felsic rocks is generally low in dissolved solids, soft, and has a slightly acidic pH. Water flowing through silica rich rocks is hard and creates problems with siliceous deposits. Treatment methods do exist for removing iron, silica, and other ground water impurities. Comparative treatment costs of ground water and surface water sources should be part of all water development plans.

The lower Santee Basin (from Lake Marion downstream to the Atlantic Ocean) traverses the Coastal Plain region of South Carolina.

Ground waters are more variable in quality in the Coastal Plain region of the Basin. Waters from the shallower tertiary sand aquifers are generally soft, low in dissolved solids, acidic, and sometimes high in dissolved iron or carbon dioxide. Waters

from the tertiary limestone or calcareous sand aquifers are hard with moderate concentrations of dissolved solids. In places, waters from these tertiary aquifers are high in dissolved iron or hydrogen sulfide gas. Waters from the deep Cretaceous aquifers are typically soft, high in bicarbonate, and high in fluoride and dissolved solids. Waters from these Cretaceous aquifers are generally basic and may have a high chloride content.

In general, waters from the Tertiary and Cretaceous aquifers in the inner Coastal Plain are acidic, soft, and have a low dissolved solids content. As these waters move towards points of discharge in coastal areas, they become alkaline and higher in bicarbonate and dissolved solids (2).

Velocity - Average flow conditions are: (Table 3 and Figures 19-20)

North Santee at mile 5.9 - maximum 1.8 fps ebb tide
maximum 1.5 fps flood tide

South Santee - at least 1.4 fps ebb tide
maximum 1.2 fps flood tide (4)

Discharge - (Tables 4-5 and Figures 21-22)

Maximum - 155,000 cfs on September 23, 1945, measured at USGS gaging station at Pineville

Minimum - 9 cfs on February 23, 1947, measured at USGS gaging station at Pineville (low flow due to repair work)

7-day, 10-year minimum - 390 cfs

Concerning discharge regulation, the following is an excerpt taken from a 1973 Water Quality Report on the Santee Basin (draft)(11):

The effect of regulation on stream flow varies. The low flow for a stream may be increased by the construction of a major storage facility. Highly variable flow conditions often

Table 3

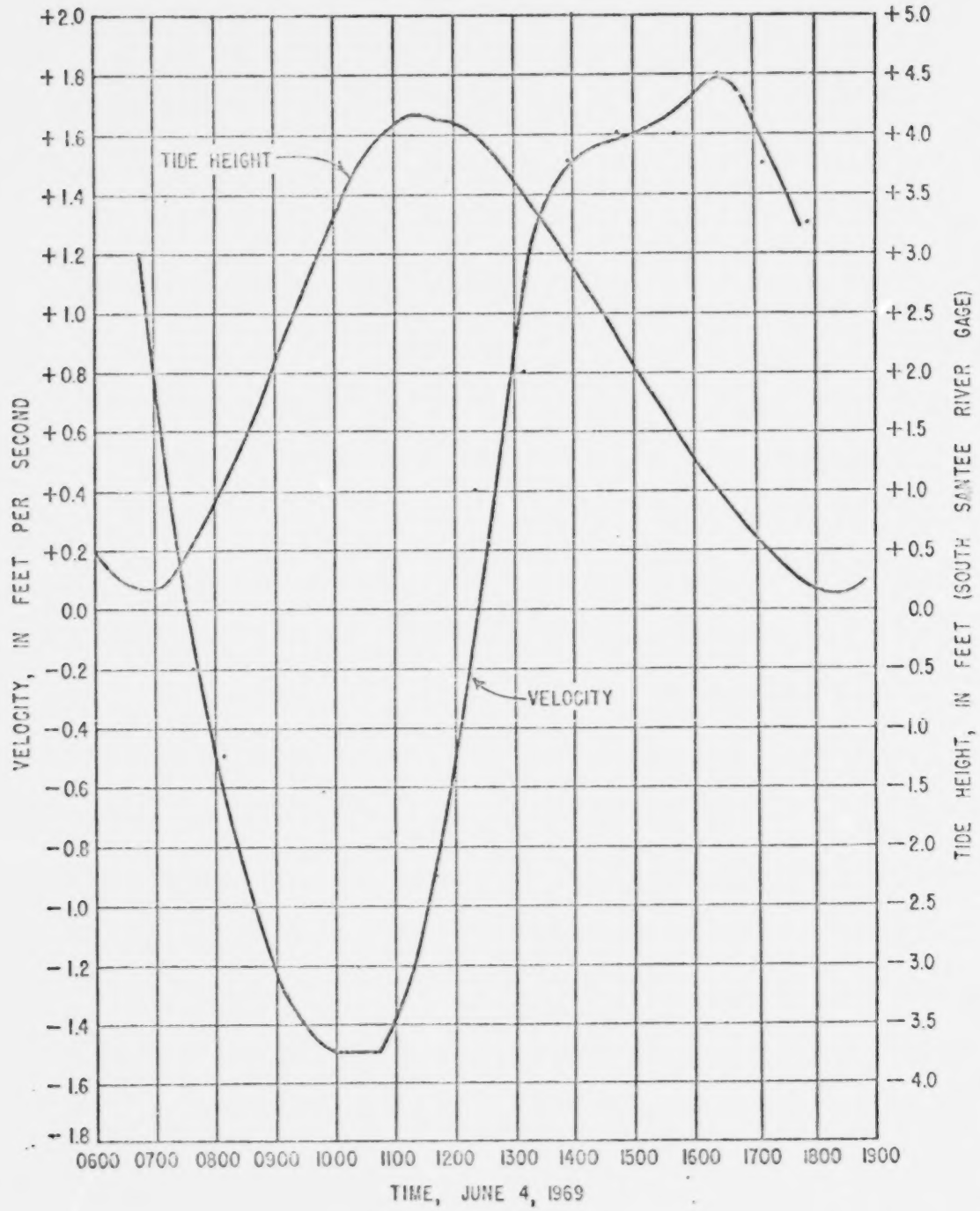
Velocity of tidal outflow, Santee River estuary, March 19, 1969

[Measurements by U. S. Geological Survey]

Depth (in feet)	Velocity (in feet per second)					
	North Santee River, Mile 8.0			North Santee River, Mile 13		South Santee River, Mile 7.0
	Left quarter-point	Midstream	Right quarter-point	Left quarter-point	Midstream	Midstream
1	1.66	1.80	1.84	0.80	2.20	1.62
2	--	--	--	1.62	2.20	--
3	2.24	2.10	1.84	1.76	1.84	1.44
4	--	--	--	1.76	1.96	--
5	1.92	1.84	1.76	1.70	1.96	.95
6	--	--	--	1.54	1.88	--
7	1.84	1.96	1.76	1.47	1.47	.89
8	--	--	--	1.58	1.66	--
9	1.38	1.73	1.76	1.23	1.51	.55
10	--	--	--	1.16	1.47	--
11	--	1.84	1.84	.70	1.29	.25
12	--	--	--	--	--	--
13	--	1.96	1.92	--	--	--
15	--	1.47	1.38	--	--	--
17	--	1.32	1.33	--	--	--
18	--	1.11	--	--	--	--
19	--	--	1.33	--	--	--

From reference No. 5

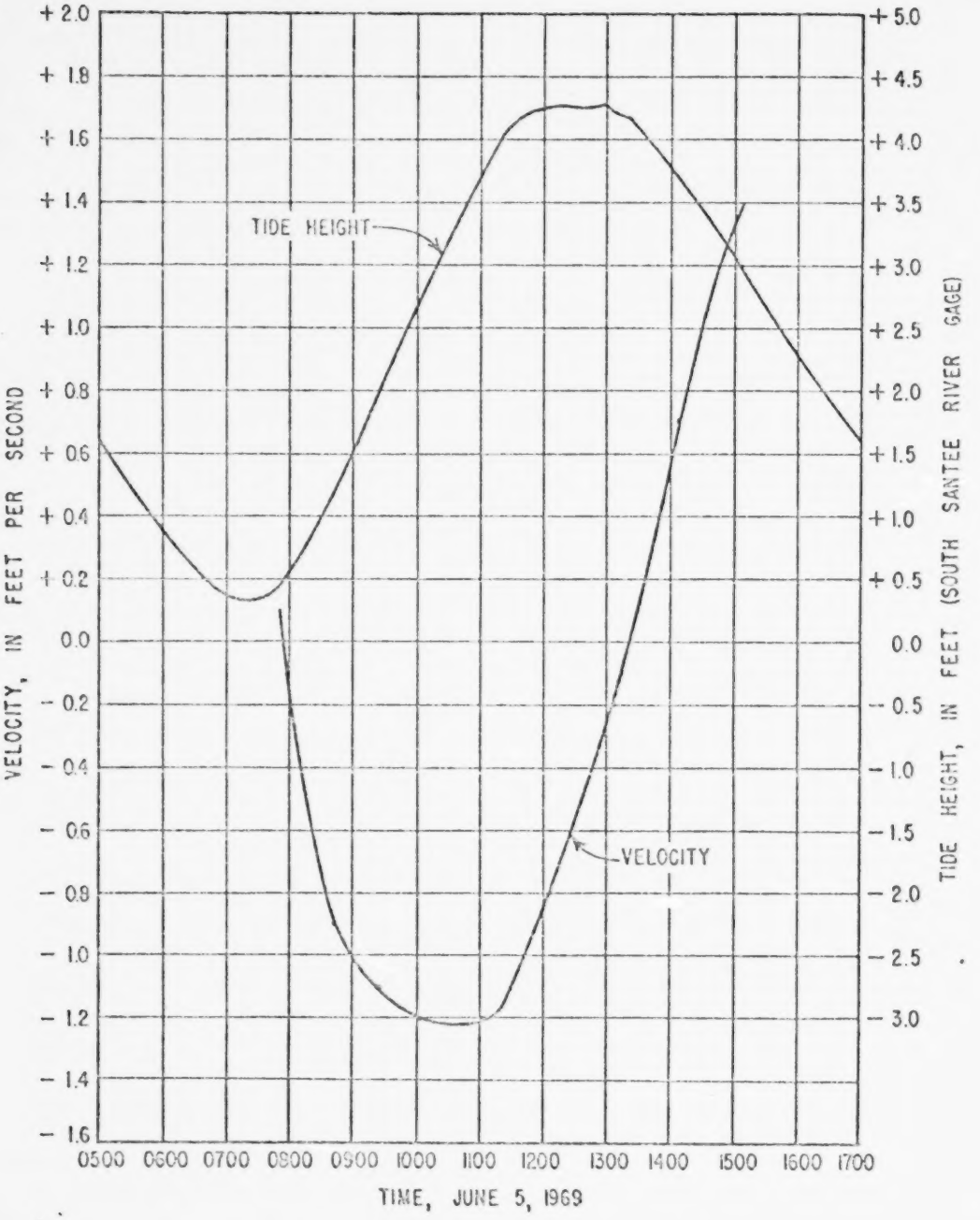
Figure 19



Average velocity of water mass, North Santee River at mile 5.9, June 4, 1969.

From reference No. 5

Figure 20



Average velocity of water mass, South Santee River at mile 7.0, June 5, 1969.

From reference No. 5

Table 4

Tidal discharge and velocity measurements, North and South Santee Rivers, February, April, and June 1969.

/Measurements by U. S. Geological Survey/

Location	Date	Time	Discharge (cfs)[1/]	Average velocity (fps)[1/]
North Santee River, mile 5.9	Feb. 12, 1969	0944	+ 13,900	+ 1.3
	-----do-----	0953	+ 12,100	+ 1.2
	-----do-----	1004	+ 12,900	+ 1.3
	April 22, 1969	1339	+ 15,300	+ 1.2
	------do------	1359	+ 16,300	+ 1.4
	------do------	1419	+ 17,000	+ 1.4
	June 4, 1969	0645	+ 11,000	+ 1.2
	-----do------	0735	- 2,270	- .2
	-----do------	0807	- 5,600	- .5
	-----do------	0840	- 11,000	- 1.0
	-----do------	0906	- 14,400	- 1.3
	-----do------	0957	- 18,500	- 1.5
	-----do------	1040	- 18,400	- 1.5
	-----do------	1138	- 10,900	- .9
	-----do------	1220	+ 5,460	+ .4
	-----do------	1308	+ 9,180	+ .8
	-----do------	1354	+ 18,000	+ 1.5
	-----do------	1442	+ 17,600	+ 1.6
	-----do------	1538	+ 18,500	+ 1.6
	-----do------	1624	+ 18,000	+ 1.8
	-----do------	1707	+ 14,800	+ 1.5
	-----do------	1750	+ 13,200	+ 1.3
South Santee River, mile 7.0	Feb. 13, 1969	1022	+ 12,300	+ 1.3
	-----do------	1033	+ 11,300	+ 1.2
	-----do------	1044	+ 10,900	+ 1.2
	April 22, 1969	1511	+ 8,950	+ 0.9
	------do------	1525	+ 9,170	+ .9
	------do------	1540	+ 8,820	+ .9
	June 5, 1969	0752	+ 1,210	+ 0.1
	-----do-----	0846	- 8,620	- .9
	-----do-----	0927	- 11,500	- 1.1
	-----do-----	1010	- 12,600	- 1.2
	-----do-----	1109	- 14,500	- 1.2
	-----do-----	1204	- 9,960	- .8
	-----do-----	1306	- 2,030	- .2
	-----do-----	1410	+ 8,150	+ .7
	-----do-----	1508	+ 14,900	+ 1.4

1/ Positive values signify ebb tide; negative values signify flood tide.

From reference No. 5

Table 5

MINIMUM FLOW

SANTEE RIVER BASIN

2-1715. Santee River near Pineville, S. C.

Location.--Lat 33°27'15", long 80°09'25", on right bank 2.4 miles downstream from Lake Marion Dam, 3.0 miles upstream from Dead River, and 6.7 miles west of Pineville, Berkeley County.

Drainage area.--14,700 sq mi, approximately.

Records available.--April 1942 to September 1965.

Remarks.--Flow of Santee River is diverted into Lake Moultrie and to Cooper River. Average diversion from 1943 to 1965 was 14,560 cfs. A constant flow of about 300 cfs is released from Lake Marion into the Santee River at the Lake Marion spillway. Excess flood water is discharged over the spillway into the Santee River usually several times a year. The discharge at the station is about 500 cfs except during periods when water is discharged over spillway.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Period (Consecutive days)	Lowest average flow, in cubic feet per second, for indicated recurrence interval, in years				
	2	5	[illegible]	20	40
7	350	310	[illegible]	-	-
30	370	333	[illegible]	-	-
60	390	370	[illegible]	-	-
120	510	490	[illegible]	-	-
274	570	550	[illegible]	-	-

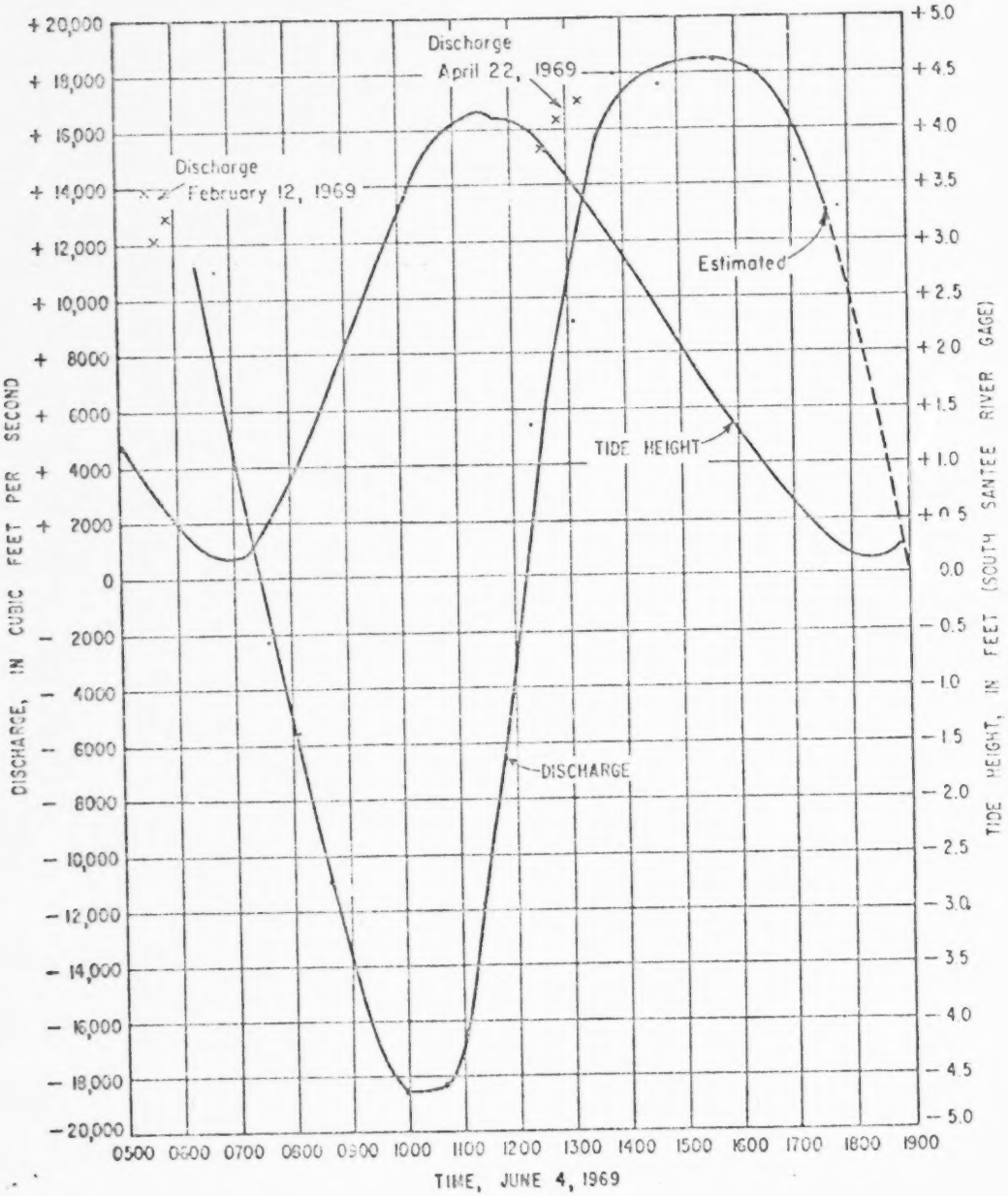
DURATION OF DAILY FLOW

Period	Flow, in cubic feet per second, which was equaled or exceeded for indicated percent of time										
	2	10	30	50	70	80	90	95	98	99	99.5	99.9
1943-65	29,000	16,000	900	518	500	491	482	470	459	397	375	50

LOWEST MEAN DISCHARGE, IN CUBIC FEET PER SECOND, FOR THE FOLLOWING NUMBER OF CONSECUTIVE DAYS IN YEAR BEGINNING APRIL 1

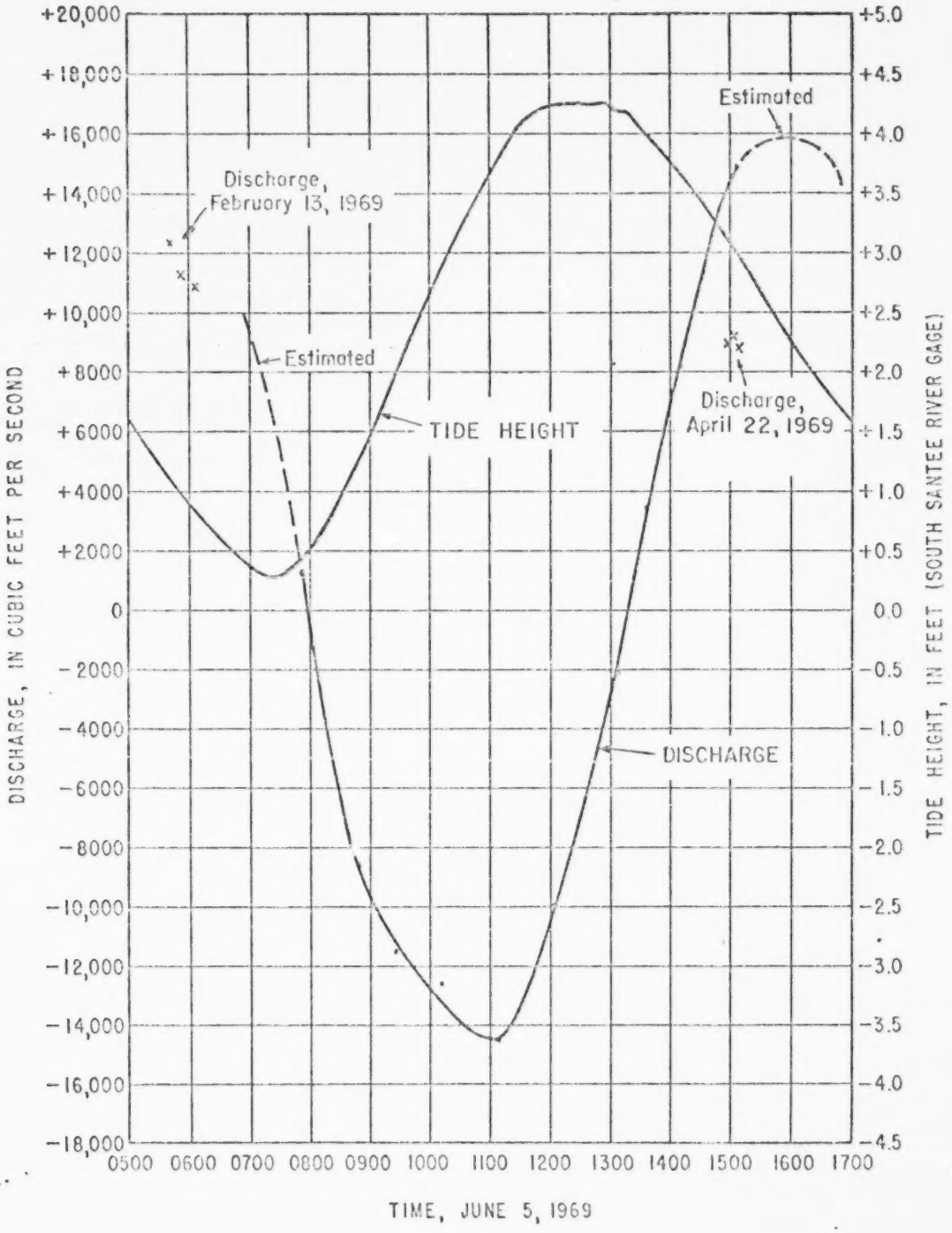
Year	1	3	7	14	30	60	90	120	150	183	274
1943	422.0	469.0	488.0	529.0	550.0	572.0	574.0	585.0	596.0	555.0	1240.0
1944	225.0	308.0	410.0	466.0	493.0	502.0	515.0	528.0	533.0	547.0	551.0
1945	252.0	386.0	402.0	418.0	468.0	482.0	490.0	498.0	495.0	4600.0	3240.0
1946	9.6	12.7	25.3	164.0	260.0	501.0	510.0	514.0	518.0	522.0	563.0
1947	301.0	389.0	435.0	442.0	462.0	476.0	489.0	498.0	505.0	505.0	1200.0
1948	207.0	214.0	236.0	401.0	523.0	525.0	535.0	541.0	540.0	545.0	3130.0	
1949	396.0	460.0	415.0	415.0	426.0	458.0	478.0	503.0	510.0	509.0	2520.0	
1950	438.0	458.0	478.0	488.0	489.0	495.0	506.0	508.0	517.0	522.0	536.0	
1951	408.0	441.0	465.0	471.0	483.0	500.0	507.0	505.0	505.0	511.0	518.0	
1952	403.0	411.0	416.0	423.0	443.0	466.0	482.0	490.0	495.0	503.0	548.0	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1955	200.0	393.0	445.0	470.0	480.0	488.0	498.0	498.0	492.0	491.0	493.0	
1956	294.0	403.0	417.0	460.0	468.0	480.0	484.0	488.0	500.0	503.0	1210.0	
1957	354.0	458.0	473.0	480.0	484.0	491.0	497.0	498.0	500.0	531.0	544.0	
1958	410.0	410.0	453.0	470.0	475.0	507.0	510.0	510.0	519.0	531.0	544.0	
1959	410.0	468.0	480.0	481.0	502.0	510.0	512.0	681.0	653.0	629.0	3170.0	
1960	396.0	472.0	502.0	504.0	511.0	523.0	526.0	547.0	549.0	556.0	561.0	
1961	392.0	429.0	477.0	481.0	485.0	491.0	498.0	502.0	506.0	506.0	592.0	
1962	422.0	448.0	455.0	456.0	462.0	473.0	488.0	498.0	500.0	505.0	507.0	
1963	441.0	454.0	464.0	473.0	482.0	486.0	491.0	493.0	500.0	504.0	505.0	
1964	460.0	477.0	482.0	486.0	498.0	512.0	516.0	518.0	735.0	2660.0	3730.0	

From reference No. 8



Discharge during a tidal cycle, North Santee River at mile 5.9, June 4, 1969.

From reference No. 5



Discharge during a tidal cycle, South Santee River at mile 7.0, June 5, 1969.

From reference No. 5

result from impoundments at power plant facilities; e.g., in the Catawba River at Catawba, South Carolina. Most reservoirs are operated for production of hydroelectric power release water in predetermined patterns that result in lower discharges on the weekend than during the week. Flow in unregulated streams within the Basin is generally highest in the winter and lowest in fall....

The most significant project involving water diversion with resulting effects on stream flow patterns and water quality originates from flow regulation of the Santee-Cooper Power and Navigation Project owned by the State of South Carolina and operated by the South Carolina Public Service Authority. The development project completed in 1942 presently consists of an eight-mile long earth diversion dam across the Santee River at Wilson Landing (mile 87) creating Lake Marion, another earth dam about two miles long across the Cooper River drainage area near Pinopolis, South Carolina, flanked by 26 miles of earth dikes forming Lake Moultrie, a diversion canal about eight miles long connecting the two reserviors, and a four-and-half mile long tailwater channel extending from the Pinopolis Dam to the west branch of the Cooper River. The tail water channel also serves for navigational use.

Under license granted by the Federal Power Commission (FPC), a 1.9 megawatt hydroelectric power plant at the south end of the Lake Marion Dam (Santee Spillway) releases a minimum specified flow of 500 cfs from Lake Marion to the Santee River below the dam. Except during periods of floods, water discharge to the Santee River, under normal conditions, is between 500 and 600 cfs.

A greater discharge may be required by the Secretary of the Army if justified by commercial interest. During April and May 1969 flood releases from Lake Marion were 40,000 cfs or greater on four consecutive days.

The remaining flow into Lake Marion is diverted from Lake Marion through the eight-mile long diversion canal to Lake Moultrie, thereafter being discharged through the 133 megawatt Pinopolis hydroelectric power plant at Lake Moultrie Dam near Moncks Corner into the tailwater canal which empties into the west branch of the Cooper River inland from Charleston, South Carolina. The discharge from the Pinopolis hydroelectric plant may vary from 2,000 cfs to about 28,000 cfs in a 24-hour period with a daily mean of about 15,000 cfs under normal operation. During periods of abnormal water supply in the reservoirs, the daily discharge has averaged about 26,000 cfs for continuous periods of three to four months. Provision for conveyance of navigation barges through this portion of the system is made. Much of the traffic is recreational. The Pinopolis Navigation Lock and Power Plant is located at mile 49 on the Cooper River. A 96-megawatt capacity steam electric generating plant is located on the left bank of the Cooper River about 1,000 feet downstream from the Pinopolis Dam Powerhouse.

The average flow from the 15,700 square mile drainage area of the Santee River Basin is about 16,000 cfs. The Santee-Cooper project results in diversion of substantially all of the flow from about 14,700 square miles of the Santee River system, averaging more than 15,000 cfs, into the upper Cooper River and Charleston Harbor.

The lower Santee River carries only a 500-600 cfs continuous flow, which is required to be released at the Santee Dam for the hydroelectric development project and flood flows in excess of the capacity of the hydroelectric plant.

Water Quality

Physical - Measurements of color, turbidity, and Secchi Disc transparency were taken on August 4-5, 1969, by the U.S. Geological Survey on the North Santee, South Santee, and Santee Rivers (Tables 6-19).

The color of the water is due to organic and inorganic ions in solution. Measurement of color was based on the platinum-cobalt scale.

Insoluble suspended matter in the water is the probable cause of turbidity. Turbidity is measured by determining the scattering and absorption of light by small suspended particles. Turbidity is determined by the USGS by comparisons to standard reference suspensions of SiO_2. Higher turbidity in the lower reaches of the estuary is probably a result of strong tide-induced currents that are not found in the upper reaches of the Santee River. Surrounding swamps near the South Santee cause it to have a blackish color, due to dissolved organic manner. Swamp drainage is more rapid through the North Santee River; thus, color is lower because of greater flushing action than occurs in the South Santee River (5,6). Turbidity was higher also on the South Santee.

The South Carolina Water Quality Station at Pineville, South Carolina, has recorded a maximum of 15 and a minimum of 1 Jackson units of turbidity from 1969 to 1972. During that time, the average suspended sediment discharge was 24.7 tons per day, with a maximum of 53 and a minimum of 9 tons per day.

Sediment samples were taken by the USGS on April 23, 24 and June 18, 1969, for the purpose of analyzing the percent of sand and percent of silt plus clay. The percentage of sand progressively increased from river mile 5.0 upstream on both the North and South Santee Rivers. Sand was the major constituent of the bed material from river miles 5 through 24. Most of the sand fraction of suspended sediment settles to the bed before reaching the lower part of the estuary. The finer silt and clay fractions are probably transported further downstream until it mixes with water of sufficient salt content, flocculates, and settles to the bottom (5).

The South Carolina Pollution Control Authority has surveyed the Santee River at four locations. Stations are located at U.S. Highway 52 bridge, S.C. Highway 41 bridge, U.S. Highway 17 bridge over North Santee, and U.S. Highway 17 bridge over South Santee. At Highway 52 bridge, which was surveyed from 1962 to 1963, maximum temperature was 26.5°C, minimum temperature was 20.0°C, and the mean was 25.5°C. The station located at S.C. Highway 41 bridge had a maximum temperature of 27.0°C, a minimum temperature of 23.0°C, and a mean of 25.1°C. These were obtained in 1963. The North Santee River at U.S. Highway 17 had a maximum temperature of 29.0°C, a minimum temperature of 28.0°C, and a mean temperature of 28.1°C for data gathered in 1965. The South Santee River at U.S. Highway 17, surveyed in 1965 also, had a maximum temperature of 28.5°C, a minimum temperature of 28°C, and a mean temperature of 28.1°C (7).

From July 1969 through September 1970 (except for July 1970), the USGS recorded temperatures at the Santee River near St. Stephens, South Carolina. Maximum temperature recorded was 31.0°C, while the minimum temperature was 8.1°C. Mean temperature was 20.2°C. Also, the USGS recorded temperatures of the Santee River near Pineville, South Carolina,

from October 1968 to September 1969 (except for August 1969). Results showed a maximum temperature of 30.0°C, a minimum temperature of 7.0°C, and a mean of 16.7°C. Temperature was recorded again at Pineville from October 1969 to September 1970 (excluding March, April, and July 1970). Results revealed a maximum temperature of 29.2°C, a minimum temperature of 4.4°C, and a mean of 18.5°C.

Temperature measurements in the Santee, South Santee, and North Santee Rivers were taken in 1968 and 1969 by the USGS (Tables 20 and 21).

Chemical - Total Alkalinity - The South Carolina Pollution Control Authority (SCPCA) took chemical measurements at four stations on the Santee River--near U.S. Highway 52 bridge, S.C. Highway 41 bridge, and U.S. Highway 17 bridge over North Santee River and U.S. Highway 17 bridge over South Santee River.

At the station near U.S. Highway 52 bridge, maximum total alkalinity was 30.0 mg/l, while the minimum total alkalinity was 26.0 mg/l; the average was 27.0 mg/l. The results from this station were recorded in 1962 and 1963. At the Highway 41 bridge, tests for 1963 revealed a maximum total alkalinity of 30.0 mg/l, a minimum total alkalinity of 21.0 mg/l, and an average of 27.0 mg/l.

The North Santee River at Highway 17 bridge had a maximum total alkalinity of 36.0 mg/l, a minimum of 32.0 mg/l, and an average total alkalinity of 34.5 mg/l. Measurements were taken during 1965. The South Santee at Highway 17 bridge had a maximum total alkalinity of 44.0 mg/l, a minimum total alkalinity of 32.0 mg/l, and an average of 37.0 mg/l. Measurements were taken during 1965 (7).

pH - The SCPCA also measured pH at these four Santee River stations. At the station near Highway 52 bridge, the maximum pH value was 7.30, the

minimum value was 7.00, and the average was 7.15. This data was based on sampling in 1962 and 1963. At Highway 41 bridge, the maximum pH was 7.30, the minimum was 7.25, and the average pH was 7.28.

On the North Santee River at Highway 17 bridge, pH ranged from a maximum of 6.80 to a minimum of 6.40, with an average value of 6.60. At the Highway 17 bridge over the South Santee, pH values ranged from a maximum of 6.70 to a minimum of 6.60, with an average pH of 6.65. This data was obtained in 1965 (7).

Dissolved Oxygen - There are seven monitoring stations on the lower Santee River. These stations have been monitoring water quality for varying amounts of time covering the period between 1955 and 1973 (Tables 7 to 19). During this period, dissolved oxygen (DO) concentrations have been determined 150 times. The mean DO concentration for this period is 8.6 ppm. The maximum concentration was 14.3 ppm, and the minimum was 5.0 ppm. The minimum concentration was recorded near river mile 58 and the highest near river mile 48.

In addition, the SCPCA analyzed samples for dissolved oxygen from four locations on the Santee River. These results are shown below (7):

Location	Period	DO (mg/1) Max.	Min.	Mean
U.S. Highway 52 bridge over Santee River	1962-63	8.70	7.20	7.70
S.C. Highway 41 bridge over Santee River	1963	8.50	7.00	7.65
U.S. Highway 17 bridge over North Santee River	1965	5.80	5.40	5.70
U.S. Highway 17 bridge over South Santee River	1965	6.20	5.40	5.75

Alkali Metals - The mean sodium concentration in the Santee River near Pineville, South Carolina, (approximate RM82) was 9.3 mg/1. This consisted of 65 samples collected between 1966 and 1971. The maximum-minimum values for this period were 13.0 and 5.9 mg/1 respectively (Table 8). Sodium concentration in the North Santee ranged from 550 mg/1 at river mile 4 to 24 mg/1 at river mile 14, and they ranged from 8,350 mg/1 at river mile 5 to 245 mg/1 at river mile 14 on the South Santee (Table 22).

Potassium concentrations at the Pineville, South Carolina, station ranged from 1.1 mg/1 to 2.5 mg/1. The mean for 65 samples collected between 1966 and 1971 was 1.7 mg/1 (Table 8). In the North Santee River, concentrations ranged from 160 mg/1 at river mile 4 to 9.2 mg/1 at river mile 14; and in the South Santee, the ranged from 280 at rivermile 4 to 7.5 at river mile 14 (Table 22).

Alkaline Earths - The mean calcium concentration from 65 water samples collected from the Santee River near Pineville, South Carolina, was 5.0 mg/1 (Table 8). Calcium concentrations in the North Santee ranged from 232 mg/1 at river mile 4 to 9.5 mg/1 at river mile 14, and from 292 mg/1 at river mile 4 to 21 mg/1 at river mile 14 on the South Santee River (Table 22).

Magnesium concentrations in the Santee River ranged from 1.0 mg/1 to 2.4 mg/1 from 1966 to 1971 (Table 8). Concentrations in the North Santee River on July 15, 1969, ranged from 597 mg/1 at mile 4 to 5.2 mg/1 at mile 14, and from 951 mg/1 at mile 4 to 28 mg/1 at mile 14 on the South Santee River (Table 22).

Heavy Metals - Heavy metals were randomly sampled from several stations on the Santee, North Santee, and South Santee Rivers from 1966 to 1972 (Tables 7-20). Generally, the number of samples is very low, and the values obtained are in acceptable limits.

Sulfate - The mean sulfate concentrations from 65 water samples collected at Pineville, South Carolina, was 9.3 mg/l; and the range was 5.9 to 13.0 mg/l (Table 8). Sulfate concentrations in the North Santee River ranged from 1,420 mg/l at mile 4 to 7 mg/l at mile 14, and from 1,960 mg/l at mile 4 to 58 mg/l at mile 14 on the South Santee (Table 22).

Chlorides - A single water sample, taken from the Santee River at S.C. Highway 41, was analyzed for chloride content. The concentration present was 26 gm/l (Table 11). Chlorides in the North Santee River ranged from 9,650 mg/l at mile 4 to 7 mg/l at mile 14, and on the South Santee ranged from 15,000 at mile 4 to 440 mg/l at mile 14 (Table 22).

Salinity - Salinities in the South Santee were subject to fluctuations during 1964 sampling by the Bears Bluff Laboratory (10). At the station located 1 mile below Highway 17 bridge, fresh water was recorded on the surface and bottom on April 16 and 17, 1964. Flow in the Santee River at that time ranged from 14,000 to 19,000 cfs. However, salinities of 5 ppt or less were observed from March through May of 1964, in June and December 1963, and January 1964. Water volume ranged well above normal during this entire period. Salinity values as high as 23.3 ppt were recorded on the surface and bottom on September 6, 1963. A station located on the southeast shore of Cedar Island, opposite the mouth of Alligator Creek, also had the same fluctuations. A minimum of 0.0 ppt in April 1964 to a high of 34.6 ppt in September 1963 were recorded. At another station 3 miles further down the river, salinities were generally higher throughout the year.

Salinity in the North Santee at the uppermost station 1 mile below Highway 17, was lower for a much greater time than in the comparable station on the South Santee. Only 5 out of 26 times during the year that

salinities were taken did they exceed 5 ppt at this station. At the northeast end of Little Crow Island, salinities resembled those at the station across from the mouth of Alligator Creek on the South Santee.

Mean salinities for the three stations on the North and the South Santee Rivers for June 1963 to June 1964 are given below.

	North Santee			South Santee		
	Surface	Bottom	Difference	Surface	Bottom	Difference
Station 1	2.4	2.9	0.5	7.7	8.5	0.8
Station 2	19.1	21.9	2.8	15.9	29.3	13.4
Station 3	22.4	23.9	1.5	23.2	23.6	0.4

During normal flow conditions, the specific conductance of water in the lower reach of an estuary is generally related to the height of the tide. Such a relationship probably exists in the Santee estuary. At times when specific conductance measurements were made, flow in the Santee River ranged from 520 to 1,060 cfs. Under these conditions, an estimated 85 percent of the freshwater inflow moves to the sea through the North Santee River. As a result, the salinity of the North Santee is less than that of the South Santee much of the time. At high tide, maximum specific conductance at mile 5.0 on both the North and South Santee was between 40,000 and 50,000 micromhos. At mile 12 the maximum values were 10,000 and 15,000 respectively. Minimum values at low tide at mile 5 on the North Santee were 4,000 or more, but on the South Santee the values were 23,000 micromhos or more. Under the conditions described above, the boundary of tidal salt water (chloride content of 250 mg/l or more) occurs between miles 8 and 11 on the North Santee and between miles 9 and 13 on the South Santee.

In 1969, a storm off the South Carolina coast resulted in a tide of 1.8 feet above mean high water at Charleston. Gauge heights on the Santee registered 0.2 feet higher than during the previously mentioned study. Specific conductance measured at river mile 11.3 on the South Santee was

19,000 micromhos, or about 2½ times as great as at mile 11.0 during the investigation.

In April of 1969, flood releases from Lake Marion were in excess of 40,000 fpc for 4 consecutive days. The effects of these waters reduced the specific conductance at mile 4.0 on the North Santee to less than 1,000 micromhos. Under normal conditions, the Santee estuary may be classed as a partially mixed estuary; during the flood, it had the characteristics of a highly stratified estuary. If the diversion of water from Lake Moultrie takes place, the Santee estuary--especially the North Santee--will probably become highly stratified (5).

For information on other chemical and physical parameters of water quality, see Tables 7 through 20.

STREAM BIOTA

General Discussion

Prior to 1942, the Santee River system was the fourth largest along the Atlantic Coast south of the St. Lawrence River (10). When the Santee-Cooper project became operational, the Santee's hydrologic character was altered. The Santee below Lake Marion flows through the middle and lower Coastal Plain. Prior to the completion of the project, the bordering flood plains of hardwood forest and swamp were flooded for extended periods each year. Since 1942, these periods of flooding are less frequent and of shorter duration.

Before the completion of the Santee-Cooper project, the Santee River delta contained large expanses of freshwater marshes which were converted to rice culture between the mid 1700's and early 1800's. By 1940, the rice fields had been abandoned and were being managed for water fowl. After completion of the project, the salinity of the water rose, and waterfowl use dropped off. With rediversion, conditions will again revert to approximately what they were before diversion, although flows will be about 20 percent below natural conditions (9).

With the return of near-natural flows, the aquatic habitat of the river will be increased by about 9,000 acres. These areas will serve as nursery and rearing ground for a variety of fishes. Striped bass, American shad, and glut herring will spawn in the area. The numbers of largemouth bass, catfish, bream, crappie, chain pickerel, and others will increase correspondingly (9).

Since distances from existing population centers will not change appreciably from the existing Cooper River fishery, a transfer of a significant portion of the Cooper River utilization to the Santee River can be expected (9).

Fish

From July 1, 1970, to June 10, 1971, the South Carolina Wildlife Resources Department, under a Dingell-Johnson project (12), collected 42 species of fish from the Santee River. These were collected by gill netting, trawling, electro-fishing, and rotenoning. The following species were collected:

Longnose gar	Lepisosteus osseus (Linnaeus)
Bowfin	Amia calva Linnaeus
American eel	Anguilla rostrata (Lesueur)
Blueback herring	Alosa aestivalis (Mitchill)
Hickory shad	Alosa mediocris (Mitchill)
American shad	Alosa sapidissima (Wilson)
Atlantic menhaden	Brevoortia tyrannus (Latrobe)
Gizzard shad	Dorosoma cepedianum (Lesueur)
Threadfin shad	Dorosoma petenense (Gunther)
Redfin pickerel	Esox americanus americanus Gmelin
Carp	Cyprinus carpio Linnaeus
Golden shiner	Notemigonus crysoleucas (Mitchill)
Ironcolor shiner	Notropis chalybaeus (Cope)
Dusky shiner	Notropis cummingsae Myers
Coastal shiner	Notropis petersoni Fowler
Creek chubsucker	Erimyzon oblongus (Mitchill)
Spotted sucker	Minytrema melanops (Rafinesque)
Pirate perch	Aphredoderus sayanus (Gilliams)
Tidewater silverside	Menidia beryllina (Cope)
White perch	Morone americana (Gmelin)
White bass	Morone chrysops (Rafinesque)
Striped bass	Morone saxatilis (Walbaum)
Mud sunfish	Acantharchus pomotis (Baird)
Flier	Centrarchus macropterus (Lacepede)
Bluespotted sunfish	Enneacbanthus gloriosus (Holbrook)
Redbreasted sunfish	Lepomis auritus (Linnaeus)
Pumpkinseed	Lepomis gibbosus (Linnaeus)
Warmouth	Lepomis gulosus (Cavier)
Bluegill	Lepomis macrochirus Rafinesque
Spotted sunfish	Lepomis punctatus (Valenciennes)
Largemouth bass	Micropterus salmoides (Lacepede)
White crappie	Pomoxis annularis Rafinesque
Black Crappie	Pomoxis nigromaculatus (Lesueur)
Yellow perch	Perca flavescens (Mitchell)
Pinfish	Lagodon rhomboides (Linnaeus)
Striped mullet	Mugil cephalus Linnaeus
Summer flounder	Paralichthys dentatus (Linnaeus)
Hogchoker	Trinectes maculatus (Block & Schneider)
Tongue fish	Symphurus sp.

Plants

From July 1, 1971, to June 30, 1972, South Carolina, under another Dingell-Johnson project (12), made a survey of the submergent and emergent vegetation of the Santee River from the Intracoastal Waterway to Lake Marion. Following is a list of the plants found:

Water plantain	Alisma plantago aquatica L.
Alligatorweed	Alternanthera philoxeroides (Mart.)
Water weed	Anacharis canadensis (Michx)
Saw grass	Cladium jamaicensis (Crantz)
Spikerush	Eleocharis sp.
Eryngo	Eryngium aquaticum L.
Figwort	Hydrotrida caroliniana (Walt)
Cutgrass	Leersia hexandra Swartz
Mint	Lycopus sessilifolius A. Gray
Parrot's feather	Myriophyllum heterophyllum Mich
Smartweed	Polygonum sp.
Pickerelweed	Pontederia cordata L.
Breakrush	Rynchospora caryana Fernald
Breakrush	Rynchospora macrostachya Torr.
Arrowhead	Sagittaria latifolia Willd.
Water pimpernel	Samolus pauciflorus Raf.
Bullrush	Scirpus etuberculatus (Steud.)
Great bullrush	Scirpus validus Vahl
Cordgrass	Spartina sp.
Eelgrass	Zostera marina L.

Invertebrates

In the same study as above (12), three sample areas were selected for sampling with Petersen and Ekman grabs. Two of the stations were located in fresh water and one was located in a brackish-water area. Unfortunately, all samples were lumped into a single list, which follows.

Annelida
- Oligochaeta - 1
  - Tubifex - 67
  - Lumbriculus - 80
  - Naidium - 9
- Polychaeta
  - Nereidae - 1
- Hirudinea
  - Helobdella - 1

Turbellaria
- Planaria - 12

Cladocera
- *Sida* - 1

Isopoda
- *Asellus* - 1

Amphipoda
- *Gammarus* - 22

Hydracarina
- *Hydrachna* - 1

Ephemeroptera
- *Caenis* (nymph) - 1

Odonata
- *Comphus* (nymph) - 1

Trichoptera - 6
- *Hydropsyche* (larvae) - 3
- *Neureclipsis* (larvae) - 5

Coleoptera
- Dytiscidae (larvae) - 3
  - *Cybister* (larvae) - 1

Diptera
- Tendipedidae
  - *Pentaneura* (larvae) - 44
  - *Pentaneura* (pupae) - 10
  - *Hydrobaenus* (larvae) - 9
  - *Metriocnemus* (larvae) - 66
  - *Tendipes* (larvae) - 8
  - *Tendipes* (pupae) - 6
  - *Calopsectra* (larvae) - 53
  - *Coryroneura* (larvae) - 1
- Culicidae
  - *Chaoborus* (larvae) - 2
- Ceratopogonidae
  - *Palpomyia* (larvae) - 18

Gastropoda
- Snails - 1

Pelecypoda
- Clams - 71

ESTUARINE BIOTA

General Discussion

There are approximately 131,500 acres of marshland in the Santee River estuary. About 18,000 acres are classified as freshwater tidal marsh with less than 1,000 ppm salinity.

The dominant vegetation on marshes with salinities greater than 15,000 ppm is smooth cordgrass (Spartina alterniflora). Marshes with salinities less than 15,000 are dominated by needlerush (Juncus roemerianus) with a few areas dominated by big cordgrass (Spartina patens) or saltgrass (Distichlis spp.). The dominant vegetation of the freshwater marshes is giant cutgrass (Zizaniopsis miliacea)(13).

The estuaries of the Santee system are ecotones or transition zones whose boundaries merge gradually with the ocean, fresh water, and the land. The edge relationships are dynamic and constantly in a state of change. The Santee ocean reservoir is relatively shallow and extends to the Gulf Stream offshore moving northward toward the cold, denser waters, the circulation is a large counterclockwise gyre between the coast and the Gulf Stream (13). Therefore, the ocean is not a limitless pit independent of all other estuaries along the coast; but instead, material deposited by one estuarine system is eventually exchanged with all other systems within the gyre.

Estuaries are very valuable to humans, since they are doorways between the ocean and the landmasses; but they are also extremely important from the standpoint of fisheries. Nearly two-thirds of the harvest of seafoods consists of species that depend on the estuarine zone for their existence or pass through the zone on the way to spawning grounds. Because of the

severe environment of the estuary, the number of organisms which can flourish there is limited. As a result, food chains are short; and the removal of one link of the chain will have a greater effect than it would on a more highly developed food chain.

About 25,000 acres of marshland has been diked and water control established for waterfowl management. The saline areas are managed to produce widgeongrass (Ruppia maritima), saltmarsh bullrush (Scirpus robustus), and dwarf spikerush (Eleocharis parvula). The freshwater duck fields are managed for browntop millet (Panicum ramosum), Japanese millet (Echinochloa frumentacea), and smartweed (Polygonum spp.).

Fish

Sport fisheries within the brackish water area of the river (U.S. Highway 17 downstream) include striped bass, American shad, white catfish, weakfish, croaker, spot, channel bass, black drum, and others. Fisherman utilization is very light. In addition, the delta is utilized as a nursery area by spot, menhaden, croaker, and other less abundant species (14). A list of species found in the estuary and along the coast can be found in Table 23.

Plants

The dominant vegetation in varying amounts of salinity is as follows:

15,000 ppm and higher - smooth cordgrass (Spartina alterniflora)

Less than 15,000 ppm - usually needlerush (Juncus roemerianus) sometimes big cordgrass (S. oynosuroides)

Occasionally flooded - marsh hay cordgrass (S. patens) or, with salt water, saltgrass (Distichlis spp.)

Fresh water - giant cutgrass (Zizaniopsis milicea)(13)

Invertebrates

South Carolina Wildlife Resources Department collected macrobenthos samples from three stations on the Santee (12). One of these stations is located within the zone of saltwater intrusion; however, all of the data are lumped into one list.

Shellfish resources within the Santee estuary are represented primarily by shrimp, blue crab, and oysters. The South Santee appears to produce greater quantities of shrimp than the North Santee. The South Santee also provides a good nursery gorund for blue crab, and both rivers support a small blue crab fishery. The estuary contains about 300 acres of subtidal oyster beds but few intertidal oysters (Figure 23). These beds support commercial oystering for market and transplanting with an average of about 30,000 bushels annually. However, due to pollution, the area is closed intermittently. With the introduction of greater amounts of fresh water into the estuary, approximately 150 acres of subtidal oyster beds will be destroyed. This loss may be somewhat offset because existing pollution will be diluted sufficiently to permit sale of oysters right off the bed (9).

POINT SOURCES OF POLLUTION

Industrial

According to the 1972 Water Quality Report on the Santee River Basin, there are 131 industrial waste sources discharging into the Santee River Basin. Of these, 33 discharge into the Broad River Basin and 97 discharge into the Catawba-Wateree Basin.

The predominant source of industrial wastes generated in the basin consists of wastewater containing byproducts of textile processing facilities. These wastes consist of color, high alkalinity, high BOD, suspended solids, and heat. Metal plating industries contribute varying amounts of heavy metals. These plants are generally small- to medium-sized operations dealing with textile equipment, household appliances, and small assembly plants. Light chemical manufacturing also exists in the basin with an additional number of handling and packaging facilities. The processes are highly variable and treatment of wastes usually consists of pH control and aeration to reduce organic oxygen demand (11).

The only industries discharging into the Santee River downstream from Lake Marion are: (1) Santee River Wool Combing Company and (2) Albany International Corporation.

Municipal

Total waste contribution from municipal sources in the total basin is 151 mgd contributed by an estimated service population of 1,292,489. Considering an overall load reduction under existing treatment conditions, the total waste load would be equivalent to an untreated population of 523,850 (11). This load reaches Lake Marion, which acts like a large cleansing chamber. When the water leaves the lake, it is classified as

Class B waters from Wilson Dam downstream to the Atlantic Ocean (15). St. Stephen, with a population of 1,600 served by secondary treatment, is the only municipal contributor to the sub-basin.

Since the construction of the Intracoastal Waterway, Winyah Bay and Georgetown Bay are connected with the north fork of the Santee River. As a result, pollution from these areas is now being distributed throughout the lower portions of both the North and South Santee Rivers.

DISCUSSION

Since the completion of the Santee-Cooper hydroelectric and navigation project, silt deposition and shoaling have greatly increased in Charleston Harbor. Several proposals to remedy this problem have been suggested. Two such proposals are now being considered. They are: (1) Prices Inlet Plan and (2) Hydropower (Santee) Plan. According to the U.S. Department of the Interior, Fish and Wildlife Service (9), marked differences are expected in the effects of the two plans. In general, the Prices Inlet Plan will cause considerable damage to the fish and shellfish in the Cooper and Wando Rivers and Prices Inlet area and to wildlife along the canal right-of-way and L'ons Swamp. The Santee Plan also will reduce the fishery of the Cooper River, but it will enhance the fishery of the Santee River while causing only a nominally negative effect on the Santee estuary shellfish. In addition, highly significant benefits will be provided for the wildlife along the Santee River flood plain. Some initial adverse effects will take place along the St. Stephens Canal.

Considering these observations and evaluations of the physical characteristics of the basin, it appears that with some reservation the Hydroelectric (Santee) Plan would be the better of the two plans to implement. This plan calls for a canal extending from the Santee River at St. Stephens, South Carolina, overland approximately 8 miles to Lake Moultrie. From that point, an approach canal will extend 3.8 miles into Lake Moultrie (Figure 24). A powerhouse and facilities will be located at approximately the midpoint of the canal. Bottom elevation of the approach channel and canal will vary from 50 feet msl in the lake to 48 feet at the powerhouse, then it will drop 3.6 more feet to the Santee River. The bottom width of the channel and

canal will be 385 feet, with side slopes of 3:1 and 4:1 respectively. Plans for spoil disposal have not been developed yet (9).

The discharge schedule for Wilson Dam to the Santee River will remain essentially the same; but average discharges from the St. Stephens powerhouse to the Santee River will be about 12,000 cfs, with a maximum of 24,000 cfs. As a result, flows in the Santee River downstream from the St. Stepehns canal will be approximately 80 percent of historic levels.

An average weekly flow of 3,000 cfs will be released through the Pinopolis powerhouse which is earmarked for the Bushy Park Industrial Area. This 3,000 cfs will be released on either a peaking or continuous basis. If discharges are peaked, complete closure of the structure could result for 72 hours (9). No changes will be made in operations of the Pinopolis navigation lock.

The U.S. Fish and Wildlife Service has made an extensive survey of the possible effects of this diversion on the fish and wildlife of the Cooper and Santee River. The following is a condensation of their remarks.

Cooper River

1. Reduced flow into Charleston Harbor will increase salinities which will produce a favorable habitat for the boring sponge, which will probably destroy the existing 390 acres of subtidal oysterbeds.
2. Ecology of the Cooper River will be significantly altered since flows will be reduced 80 percent with a subsequent reduction in amount and duration of overflow.
3. Permanent aquatic habitat will be reduced about 80 percent, and sport fish populations will diminish about the same degree.
4. Reduced striped bass population may make continued operation of the South Carolina Wildlife Department fish hatchery infeasible.

5. Reduction of the glut herring population in the Cooper River may diminish the efficiency of passing these fish through the lock to the extent that not enough fish will enter the impoundments. This could lower fish production in the Santee-Cooper Reservoir.

Santee River

1. Average flow in the Santee below St. Stephens will return to approximately 80 percent of historic levels, but discharge regimes will be somewhat altered.
2. An estimated 9,000 acres of swamps and overflow lands will be inundated permanently or for extended periods.
3. Fish production from the canal downstream should at least double.
4. Fishery resources in the estuary will probably reflect an insignificant change.
5. Shrimp and crab fisheries, which are low at present, will show no appreciable changes.
6. Increased fresh water will destroy about 150 acres of subtidal oyster beds.
7. About 2,100 acres of upland pine woods and swamps will be destroyed by construction of the canal, and an unknown acreage will be destroyed by spoil areas.
8. With the increase in freshwater supply, the Santee estuary could regain its importance to continental waterfowl populations in the Atlantic flyway.

In summary, the total effects of the Santee Plan on fish and wildlife resources are primarily beneficial. Overall hunting will increase by about 700 man-days; waterfowl use capacity will expand by about 31,175,000 duck-days. Commercial fisheries will suffer an average annual loss of about $19,900.

Apparently the Fish and Wildlife Service has estimated the amount of overflow area which will be eliminated from the Cooper River and how much will result along the Santee due to rediversion. However, since this is such an important aspect of the overall effect of rediversion, the exact amount of overflow area that will be eliminated from the Cooper River and produced along the Santee River should be determined. The Corps of Engineers should be requested to provide a precise estimate of overflow in the Cooper and Santee Rivers which would result from the contemplated Santee diversion.

Aside from the lack of information on overflow areas, the effects which might result from rediversion have been well documented. It does not seem likely that much could be benefited from further limited study of the flora and fauna of the area.

MAP LIST

The following are available maps of the Santee River Basin.

Coast and Geodetic Survey

#1238 - Winyah Bay entrance to Isle of Palms
#491 - Charleston Harbor entrance
#780 - Cooper River above Goose Creek
#470 - Charleston Harbor
#1239 - Charleston Harbor and approaches

South Carolina Highway Department County Maps

Dorchester	Orangeburg
Georgetown	Calhoun
Charleston	Claredon
Berkeley	Williamsburg

U.S. Geological Survey Topographical Maps (7.5' grads for the area from Lake Marion down to the mouth)

Summerton	Sewee Bay	Jamestown
St. Mathews	Santee Point	Juger
Ridgeville	Santee	Honey Hill
Manning	Ravenel	Georgetown South
Kingstree	Ocean Bay	Ft. Moultrie
Futawville	North Island	Cordesville
Elloree	North Charleston	Charleston
Cottageville	Minim Island	Cedar Creek
Chicora	Moncks Corner	Cape Romain
Bowman	McCellonville	Capers Inlet
Bonneau	Legareville	Cainhoy
Trio	Ladson	Bull Island
Summerville	Kittredge	Bethera
Stallsville	Kilsock Bay	Awendan
Shuleville	Johns Island	Andrews

Nautical Charts

#835-SC - Myrtle Grove Sound and Cape Fear River to Casino Creek
#837-SC - Casion Creek to Beaufort River

U.S. Geological Survey State Maps

South Carolina

REFERENCES

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Table 6

Measurements of color, turbidity, and Secchi disc transparency, Santee River estuary, August 1969.

/Analyses by U. S. Geological Survey/

Stream	Mile	Date	Depth 1/ (in feet)	Color (units 2/)	Turbidity (as mg/l SiO_2)	Secchi Disc (in feet)
North Santee River	2.0	Aug.4, 1969	1	10	41	
			10	10	41	1.4
		Aug.5, 1969	1	20	20	1.6
			10	50	52	
	5.0	Aug.4, 1969	1	10	20	2.0
			14	25	43	
		Aug.5, 1969	1	40	30	1.6
			14	45	49	
			17	55	61	
	6.0	Aug.4, 1969	1	35	35	1.5
			14	35	46	
		Aug.5, 1969	1	50	49	1.2
			14	55	61	
			20	50	140	
	8.0	Aug.4, 1969	1	30	16	1.6
			14	20	32	
	10	Aug.4, 1969	1	60	44	0.9
			11	60	30	
	12	Aug.4, 1969	1	65	35	0.9
			13	55	35	
	14	Aug.4, 1969	1	50	23	1.0
			14	45	41	
			21	55	44	
	16	Aug.4, 1969	1	45	20	1.3
			14	35	20	
			19	40	38	
	18	Aug.4, 1969	1	30	11	2.1
			14	35	21	
Santee River	20 3/	Aug.4, 1969	1	30	11	2.5
			14	30	23	
	25	Aug.4, 1969	1	15	9	3.1
			5	20	11	
	29	Aug.4, 1969	1	20	11	3.1
			8	25	11	
	33	Aug.4, 1969	1	30	11	2.7
South Santee River	2.0	Aug.5, 1969	1	15	32	1.7
			10	10	46	
	5.0	Aug.5, 1969	1	25	15	2.3
			14	20	25	
			17	15	38	
	6.0	Aug.5, 1969	1	50	40	1.3
			14	30	25	

From reference no. 5

Table 6
(Continued)

Measurements of color, turbidity, and Secchi disc transparency, Santee River estuary, August 1969 - continued.

/Analyses by U. S. Geological Survey/

Stream	Mile	Date	Depth 1/ (in feet)	Color (units 2/)	Turbidity (as mg/l SiO_2)	Secchi Disc (in feet)
South Santee River	8.0	Aug.5, 1969	1 14 19	60 50 45	38 27 27	1.0
	10	Aug.5, 1969	1 11	150 150	64 58	0.8
	12	Aug.5, 1969	1 8	180 180	47 35	0.9
	14	Aug.5, 1969	1 7	180 180	32 32	0.9

1/ Applicable to color and turbidity only.

2/ Based on platinum-cobalt scale (Hazen, 1892).

3/ Santee River mileages based on continuation of North Santee River.

From reference no. 5

STORET DATE 73/03/15

02171600
33 29 40.0 079 57 40.0 2
SANTEE RIVER NR ST. STEPHEN, S.C
45

112WRD 02111204
0000

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER TEMP		CENT	49	18.0898	56.9534	7.54675	.417183	1.07811	31.0000	7.00000	69/10/28	72/12/13
00060	STREAM FLOW		CFS	52	2389.94	.420E+08	6484.18	2.71311	899.194	31800.0	600.000	69/10/28	72/07/26
00070	TURB		JKSN	5	8.00000	46.3000	6.80441	.791211	3.04303	15.0000	1.00000	69/10/28	71/12/15
00080	COLOR		PT-CO	5	62.0000	1870.00	43.2435	.697476	19.3391	100.000	10.0000	69/10/28	71/12/15
00095	CNDUCTVY		AT 25C MICROMHO	33	98.4545	76.1328	8.72541	.096462	1.51890	110.000	67.0000	69/10/28	72/12/13
00300	DO		MG/L	31	9.12579	3.29630	1.80729	.198042	.324599	14.3000	6.50000	69/10/28	72/12/13
00310	BOD		5 DAY MG/L	5	1.24000	.047999	.219087	.176683	.097979	1.40000	1.00000	69/10/28	71/12/15
00400	PH		SU	33	7.06666	.098534	.313901	.044420	.054643	7.40000	6.50000	69/10/28	72/12/13
00410	T ALK		CACO3 MG/L	2	25.0000	.000000	.000000		.000000	25.0000	25.0000	69/10/28	70/10/21
00440	HCO3 ION		HCO3 MG/L	2	30.0000	.000000	.000000		.000000	30.0000	30.0000	69/10/28	70/10/21
00445	CO3 ION		CO3 MG/L	1	.000000					.000000	.000000	70/10/21	70/10/21
00520	RESIDUE		TOT MFLT MG/L	2	2.50000	.500000	.707107	.282843	.500000	3.00000	2.00000	69/10/28	70/10/21
00618	NO3-N		DISS MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	71/08/26	71/09/09
00665	PHOS-T		P-WET MG/L	19	.046316	.005269	.072588	1.56723	.016653	.300000	.000000	69/10/28	71/06/09
00900	TOT HARD		CACO3 MG/L	2	20.5000	.500000	.707107	.034493	.500000	21.0000	20.0000	69/10/28	70/10/21
00902	NC HARD		CACO3 MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/28	70/10/21
00940	CHLORIDE		CL MG/L	2	19.0000	162.000	12.7279	.669891	9.00000	28.0000	10.0000	69/10/28	70/10/21
00945	SULFATE		SO4 MG/L	2	8.80000	2.88014	1.69710	.192852	1.20003	10.0000	7.60000	69/10/28	70/10/21
00950	FLUORIDE		F-DISS MG/L	2	.200000	.000000	.000000		.000000	.200000	.200000	69/10/28	70/10/21
01030	CHROMIUM		CR-DISS UG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/28	70/10/21
01040	COPPER		CU-DISS UG/L	2	7.50000	12.5000	3.53553	.471404	2.50000	10.0000	5.00000	69/10/28	70/10/21
01045	IRON		TOTAL UG/L	1	183.000					183.000	183.000	69/10/28	69/10/28
01046	IRON		FE-DISS UG/L	1	29.0000					29.0000	29.0000	70/10/21	70/10/21
01049	LEAD		PB-DISS UG/L	10	1.80000	32.4000	5.69210	3.16228	1.80000	18.0000	.000000	69/10/28	71/06/09
01055	MANGNESE		MN UG/L	1	20.0000					20.0000	20.0000	69/10/28	69/10/28
01056	MANGNESE		MN-DISS UG/L	1	50.0000					50.0000	50.0000	70/10/21	70/10/21
01065	NICKEL		NI-DISS UG/L	2	4.00000	32.0000	5.65685	1.41421	4.00000	8.00000	.000000	69/10/28	70/10/21
01503	ALPHA		DISOLVED PC/L	2	.150000	.005000	.070711	.471404	.050000	.200000	.100000	69/10/28	70/10/21
01505	ALPHA		SUSP PC/L	2	.100000	-.372E-08	.000000		.000000	.100000	.100000	69/10/28	70/10/21
03503	BETA		DISOLVED PC/L	2	9.39999	62.7202	7.91961	.842512	5.60001	15.0000	3.80000	69/10/28	70/10/21
03505	BETA		SUSP PC/L	2	.450000	.005000	.070711	.157135	.050000	.500000	.400000	69/10/28	70/10/21
31616	FEC COLI	MFM-FCHR	/100ML	7	262.428	361858	601.547	2.29223	227.363	1625.00	16.0000	71/08/26	72/12/13
38260	MBAS		MG/L	2	.025000	.001250	.035355	1.41421	.025000	.050000	.000000	69/10/28	70/10/21
70300	RESIDUE	DISS-180	C MG/L	2	61.5000	4.50000	2.12132	.034493	1.50000	63.0000	60.0000	69/10/28	70/10/21
70302	DISS SOL	TONS/DAY		1	110.000					110.000	110.000	70/10/21	70/10/21
70303	DISS SOL	TONS PER	ACRE-FT	2	.085000	.000050	.007071	.083187	.005000	.090000	.080000	69/10/28	70/10/21
71850	NITRATE	NO3	MG/L	21	.309523	.076905	.277317	.895948	.060515	.900000	.000000	69/10/28	71/09/09

STATION INVENTORY FOR TIME OF RECORD FOR THE
ST. STEPHENS WATER QUALITY STATION

Table 7

STORET DATE 73/03/16

02171600
33 29 40.0 079 57 40.0 2
SANTEE RIVER NR ST. STEPHEN, S.C
45

112WRD 02111204
0000

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER TEMP	CENT		49	18.0898	56.9534	7.54675	.417183	1.07811	31.0000	7.90000	69/10/28	72/12/13
00060	STREAM FLOW	CFS		52	2389.94	.420E+08	6486.18	2.71311	899.196	31800.0	600.000	69/10/28	72/07/26
00070	TURB	JCSN	JTU	5	8.60000	46.3000	6.80441	.791211	3.04303	15.0000	1.00000	69/10/28	71/12/15
00080	COLOR	PT-CO	UNITS	5	62.0000	1870.00	43.2435	.697476	19.3391	100.000	10.0000	69/10/28	71/12/15
00095	CNDUCTVY	AT 25C	MICROMHO	33	90.4545	76.1328	8.72541	.096462	1.51899	110.000	67.0000	69/10/28	72/12/13
00300	DO		MG/L	31	9.12579	3.26630	1.80729	.198042	.324599	14.3000	6.50000	69/10/28	72/12/13
00310	BOD	5 DAY	MG/L	5	1.24000	.047999	.219087	.176683	.097979	1.60000	1.00000	69/10/28	71/12/15
00400	PH		SU	33	7.06666	.098534	.313901	.044420	.054643	7.60000	6.50000	69/10/28	72/12/13
00410	T ALK	CACO3	MG/L	2	25.0000	.000000	.000000		.000000	25.0000	25.0000	69/10/28	70/10/21
00440	HCO3 ION	HCO3	MG/L	2	30.0000	.000000	.000000		.000000	30.0000	30.0000	69/10/28	70/10/21
00445	CO3 ION	CO3	MG/L	1	.000000				.000000	.000000	.000000	70/10/21	70/10/21
00520	RESIDUE	TOT NFLT	MG/L	2	2.50000	.500000	.707107	.282843	.500000	3.00000	2.00000	69/10/28	70/10/21
00618	NO3-N	DISS	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	71/08/26	71/09/09
00665	PHOS-T	P-WET	MG/L	19	.046316	.005269	.072588	1.56723	.016653	.300000	.000000	69/10/28	71/06/09
00900	TOT HARD	CACO3	MG/L	2	20.5000	.500000	.707107	.034493	.500000	21.0000	20.0000	69/10/28	70/10/21
00902	NC HARD	CACO3	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/28	70/10/21
00940	CHLORIDE	CL	MG/L	2	19.0000	162.000	12.7279	.669891	9.00000	28.0000	10.0000	69/10/28	70/10/21
00945	SULFATE	SO4	MG/L	2	8.80000	2.82014	1.69710	.192852	1.20003	10.0000	7.60000	69/10/28	70/10/21
00950	FLUORIDE	F-DISS	MG/L	2	.200000	.000000	.000000		.000000	.200000	.200000	69/10/28	70/10/21
01030	CHROMIUM	CR-DISS	UG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/28	70/10/21
01040	COPPER	CU-DISS	UG/L	2	7.50000	12.5000	3.53553	.471404	2.50000	10.0000	5.00000	69/10/28	70/10/21
01045	IRON	TOTAL	UG/L	1	183.000					183.000	183.000	69/10/28	69/10/28
01046	IRON	FE-DISS	UG/L	1	29.0000					29.0000	29.0000	70/10/21	70/10/21
01049	LEAD	PB-DISS	UG/L	10	1.80000	32.4000	5.69210	3.16228	1.80000	18.0000	.000000	69/10/28	71/06/09
01055	MANGNESE	MN	UG/L	1	20.0000					20.0000	20.0000	69/10/28	69/10/28
01056	MANGNESE	MN-DISS	UG/L	1	50.0000					50.0000	50.0000	70/10/21	70/10/21
01065	NICKEL	NI-DISS	UG/L	2	4.00000	32.0000	5.65685	1.41421	4.00000	8.00000	.000000	69/10/28	70/10/21
01503	ALPHA	DISOLVED	PC/L	2	.150000	.005000	.070711	.471404	.050000	.200000	.100000	69/10/28	70/10/21
01505	ALPHA	SUSP	PC/L	2	.100000	-.372E-08	.000000		.000000	.100000	.100000	69/10/28	70/10/21
03503	BETA	DISOLVED	PC/L	2	9.39999	62.7202	7.91961	.842512	5.60001	15.0000	3.80000	69/10/28	70/10/21
03505	BETA	SUSP	PC/L	2	.450000	.005000	.070711	.157135	.050000	.500000	.400000	69/10/28	70/10/21
31616	FEC COLI	MFM-FCHR	/100ML	7	262.428	361858	601.547	2.29223	227.363	1625.00	16.0000	71/08/26	72/12/13
38260	MBAS		MG/L	2	.025000	.001250	.035355	1.41421	.025000	.050000	.000000	69/10/28	70/10/21
70300	RESIDUE	DISS-180	C MG/L	2	61.5000	4.50000	2.12132	.034493	1.50000	63.0000	60.0000	69/10/28	70/10/21
70302	DISS SOL	TONS/DAY		1	110.000					110.000	110.000	70/10/21	70/10/21
70303	DISS SOL	TONS PER	ACRE-FT	2	.085000	.000050	.007071	.083187	.005000	.090000	.080000	69/10/28	70/10/21
71850	NITRATE	NO3	MG/L	21	.309523	.076905	.277317	.895948	.060515	.900000	.000000	69/10/28	71/09/09

Table 7
(Continued)

STORET DATE 73/03/16

02171500
33 27 15.0 080 09 25.0 2
SANTEE RIVER NEAR PINEVILLE
45

112WRD 06111204
0000

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010 WATER	TEMP	CENT		102	18.1257	64.9698	8.06039	.444694	.798097	31.1100	4.00000	66/01/20	72/12/13
00060 STREAM	FLOW	CFS		114	618.210	507257	712.220	1.15207	66.7055	7520.00	298.000	66/01/20	71/07/16
00061 STREAM	FLOW,	INST-CFS		5	520.400	686.000	26.1916	.050330	11.7132	553.000	490.000	72/07/26	72/12/13
00080 COLOR	PT-CO	UNITS		65	12.5538	148.345	12.1797	.970196	1.51070	70.0000	.000000	66/01/20	71/05/06
00095 CNDUCTVY	AT 25C	MICROMHO		87	87.7816	499.480	22.3491	.254598	2.39607	270.000	63.0000	66/01/20	72/12/13
00300 DO		MG/L		22	8.97272	3.71452	1.92731	.214796	.410903	14.1000	5.90000	69/09/04	72/12/13
00310 BOD	5 DAY	MG/L		3	1.66667	.903334	.950439	.648027	.548736	2.60000	.500000	71/01/14	71/06/09
00400 PH		SU		86	7.36855	42.5237	6.52102	.884981	.703180	67.0000	6.00000	66/01/20	72/12/13
00410 T ALK	CACO3	MG/L		65	22.9692	9.24961	3.04130	.132400	.377227	28.0000	14.0000	66/01/20	71/05/06
00440 HCO3 ION	HCO3	MG/L		65	28.0461	13.7954	3.71422	.132432	.460692	34.0000	17.0000	66/01/20	71/05/06
00445 CO3 ION	CO3	MG/L		65	.000000	.000000	.000000		.000000	.000000	.000000	66/01/20	71/05/06
00515 RESIDUE	DISS-105	C MG/L		39	59.0769	37.2319	6.10179	.105064	.977069	69.0000	33.0000	68/01/03	71/09/30
00530 RESIDUE	TOT NFLT	MG/L		39	9.38461	32.8640	5.71525	.609001	.915172	26.0000	2.00000	68/01/03	71/09/30
00650 T PO4	PO4	MG/L		39	.009231	.000397	.019919	2.15788	.003190	.080000	.000000	66/01/20	69/12/23
00660 ORTHOPO4	PO4	MG/L		28	.005357	.000137	.011701	2.18412	.002211	.050000	.000000	67/10/23	71/05/06
00900 TOT HARD	CACO3	MG/L		63	18.8095	3.02022	1.74018	.092516	.219242	24.0000	16.0000	66/01/20	71/05/06
00902 NC HARD	CACO3	MG/L		65	.061538	.246154	.496139	8.06226	.061538	4.00000	.000000	66/01/20	71/05/06
00915 CALCIUM	CA-DISS	MG/L		65	5.01381	.322885	.574365	.114556	.071241	6.30000	4.00000	66/01/20	71/05/06
00925 MGNSIUM	MG-DISS	MG/L		65	1.55076	.072863	.269932	.174064	.0334N1	2.40000	1.00000	66/01/20	71/05/06
00930 SODIUM	NA-DISS	MG/L		65	9.26304	3.04272	1.74434	.188312	.216359	13.0000	5.90000	66/01/20	71/05/06
00931 SODIUM	ADSRTION	RATIO		65	.926149	.026968	.164219	.177314	.020369	1.30000	.700000	66/01/20	71/05/06
00932 PERCENT	SODIUM	%		65	48.4461	16.9707	4.11965	.085034	.510967	58.0000	41.0000	66/01/20	71/05/06
00935 PTSSIUM	K-DISS	MG/L		65	1.67538	.103146	.321164	.191696	.039835	2.50000	1.10000	66/01/20	71/05/06
00940 CHLORIDE	CL	MG/L		65	7.60169	2.72202	1.64986	.217043	.204639	12.0000	3.60000	66/01/20	71/05/06
00945 SULFATE	SO4	MG/L		65	7.17861	3.46208	1.86067	.259203	.230787	13.0000	4.00000	66/01/20	71/05/06
00950 FLUORIDE	F-DISS	MG/L		65	.146153	.003774	.061433	.420334	.007620	.300000	.000000	66/01/20	71/05/06
00955 SILICA	DISOLVED	MG/L		65	7.28149	4.32003	2.07847	.285446	.257802	11.0000	1.60000	66/01/20	71/05/06
01040 COPPER	CU-DISS	UG/L		5	16.0100	229.600	15.1526	.946444	6.77643	30.0000	.020000	66/04/27	66/06/27
01046 IRON	FE-DISS	UG/L		49	6.69650	203.996	14.2827	2.13286	2.04039	70.0000	.000000	66/01/20	71/05/06
01049 LEAD	PB-DISS	UG/L		5	.000600	.000001	.000894	1.49071	.000400	.002000	.000000	66/04/27	66/06/27
01055 MANGNESE	MN	UG/L		7	2.85857	22.8000	4.87853	1.70663	1.84391	10.0000	.000000	66/04/27	69/02/28
01056 MANGNESE	MN-DISS	UG/L		6	.001667	.000017	.004082	2.44949	.001667	.010000	.000000	68/06/17	69/07/31
01065 NICKEL	NI-DISS	UG/L		5	.000400	.000000	.000548	1.36931	.000245	.001000	.000000	66/04/27	66/06/27
01080 STRONTUM	SR-DISS	UG/L		5	66.0400	3622.75	60.1893	.911351	26.9174	110.000	.110000	66/04/27	66/06/27
01093 ZINC	ZN-DISS	UG/L		5	6.00400	79.9401	8.94092	1.48916	3.99850	20.0000	.000000	66/04/27	66/06/27
01105 ALUMINUM	AL-TOT	UG/L		5	80.0599	6988.02	83.5944	1.04415	37.3845	200.000	.100000	66/04/27	66/06/27
01106 ALUMINUM	AL-DISS	UG/L		3	100.000	10000.0	100.000	1.00000	57.7350	200.000	.000000	66/04/16	69/06/17
01130 LITHIUM	LI-DISS	UG/L		2	.002000	.100E-10	.000003	.001581	.000002	.002000	.002000	66/04/27	66/05/[illegible]
01515 ALPHA-D	AS U-NAT	PC/L		39	.238461	.010850	.104164	.436817	.016680	.600000	.100000	68/01/03	71/09/30

STATION INVENTORY FOR TIME OF RECORD FOR THE
PINEVILLE WATER QUALITY STATION

STORET DATE 73/03/16

02171500
33 27 15.0 080 09 25.0 2
SANTEE RIVER NEAR PINEVILLE
45

112WRD 06111204
0000

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	102	18.1257	64.9698	8.06039	.444694	.798097	31.1100	4.00000	66/01/20	72/12/13
00060	STREAM	FLOW	CFS	114	618.210	507257	712.220	1.15207	66.7055	7520.00	208.000	66/01/20	71/07/16
00061	STREAM	FLOW,	INST-CFS	5	520.400	686.000	26.1916	.050330	11.7132	553.000	490.000	72/07/26	72/12/13
00080	COLOR	PT-CO	UNITS	65	12.5538	148.345	12.1797	.970196	1.51070	70.0000	.000000	66/01/20	71/05/06
00095	CNDUCTVY	AT 25C	MICROMHO	87	87.7816	499.480	22.3491	.254598	2.39607	270.000	63.0000	66/01/20	72/12/13
00300	DO		MG/L	22	8.97272	2.71452	1.92731	.214796	.410903	14.1000	5.90000	69/09/04	72/12/13
00310	BOD	5 DAY	MG/L	3	1.46667	.903334	.950439	.648027	.548736	2.40000	.000000	71/01/14	71/06/09
00400	PH		SU	86	7.36855	42.5237	6.52102	.884981	.703180	67.0000	6.00000	66/01/20	72/12/13
00410	T ALK	CACO3	MG/L	65	22.9692	9.24951	3.04130	.132408	.377227	28.0000	14.0000	66/01/20	71/05/06
00440	HCO3 ION	HCO3	MG/L	65	28.0461	13.7954	3.71422	.132432	.460692	34.0000	17.0000	66/01/20	71/05/06
00445	CO3 ION	CO3	MG/L	65	.000000	.000000	.000000		.000000	.000000	.000000	66/01/20	71/05/06
00515	RESIDUE	DISS-105	C MG/L	39	58.0769	37.2319	6.10179	.105064	.977069	69.0000	33.0000	68/01/03	71/09/30
00530	RESIDUE	TOT NFLT	MG/L	39	9.38461	32.6640	5.71525	.609001	.915172	26.0000	2.00000	68/01/03	71/09/30
00650	T PO4	PO4	MG/L	39	.009231	.000397	.019919	2.15788	.003190	.080000	.000000	66/01/20	69/12/23
00660	ORTHOPO4	PO4	MG/L	28	.005357	.000137	.011701	2.18412	.002211	.050000	.000000	67/10/23	71/05/06
00900	TOT HARD	CACO3	MG/L	62	18.8095	3.02822	1.74018	.092516	.219242	24.0000	16.0000	66/01/20	71/05/06
00902	NC HARD	CACO3	MG/L	65	.061538	.246154	.496139	8.06226	.061538	4.00000	.000000	66/01/20	71/05/06
00915	CALCIUM	CA+DISS	MG/L	65	5.01361	.329895	.574365	.114556	.071241	6.30000	4.00000	66/01/20	71/05/06
00925	MGNSIUM	MG+DISS	MG/L	65	1.55076	.072863	.269932	.174064	.033481	2.40000	1.00000	66/01/20	71/05/06
00930	SODIUM	NA+DISS	MG/L	65	9.26304	3.04272	1.74434	.188312	.216359	13.0000	5.90000	66/01/20	71/05/06
00931	SODIUM	ADSBTION	RATIO	65	.926149	.026968	.164219	.177314	.020369	1.20000	.700000	66/01/20	71/05/06
00932	PERCENT	SODIUM	%	65	48.4461	16.9707	4.11955	.085034	.510967	58.0000	41.0000	66/01/20	71/05/06
00935	PISSIUM	K+DISS	MG/L	63	1.67538	.103146	.321164	.191696	.039835	2.60000	1.10000	66/01/20	71/05/06
00940	CHLORIDE	CL	MG/L	65	7.60149	2.72202	1.64996	.217043	.204639	12.0000	3.60000	66/01/20	71/05/06
00945	SULFATE	SO4	MG/L	65	7.17641	3.46208	1.86067	.259203	.230787	13.0000	4.00000	66/01/20	71/05/06
00950	FLUORIDE	F+DISS	MG/L	65	.146153	.003774	.061433	.420334	.007620	.300000	.000000	66/01/20	71/05/06
00955	SILICA	DISOLVED	MG/L	65	7.28149	4.32003	2.07847	.285446	.257802	11.0000	1.60000	66/01/20	71/05/06
01040	COPPER	CU-DISS	UG/L	5	16.0100	229.600	15.1526	.946444	6.77643	30.0000	.020000	66/04/27	66/06/27
01046	IRON	FE+DISS	UG/L	49	6.69650	203.996	14.2827	2.13286	2.04039	70.0000	.000000	66/01/20	71/05/06
01049	LEAD	PB+DISS	UG/L	5	.000600	.000001	.000894	1.49071	.000400	.002000	.000000	66/04/27	66/06/27
01055	MANGNESE	MN	UG/L	7	2.85857	23.8000	4.87853	1.70663	1.84391	10.0000	.000000	66/04/27	69/02/28
01056	MANGNESE	MN+DISS	UG/L	6	.001667	.000017	.004082	2.44949	.001667	.010000	.000000	68/06/17	69/07/31
01065	NICKEL	NI+DISS	UG/L	5	.000400	.000000	.000548	1.36931	.000245	.001000	.000000	66/04/27	66/06/27
01080	STRONTIUM	SR+DISS	UG/L	5	66.0440	3622.75	60.1893	.911351	26.9174	110.000	.110000	66/04/27	66/06/27
01090	ZINC	ZN+DISS	UG/L	5	6.00400	79.9401	8.94092	1.48916	3.99850	20.0000	.000000	66/04/27	66/06/27
01105	ALUMINUM	AL+TOT	UG/L	5	80.0599	6988.02	83.5944	1.04415	37.3845	200.000	.100000	66/04/27	66/06/27
01106	ALUMINUM	AL+DISS	UG/L	3	100.000	10000.0	100.000	1.00000	57.7350	200.000	.000000	68/04/16	69/06/17
01130	LITHIUM	LI+DISS	UG/L	2	.002000	.100E-10	.000003	.001581	.000002	.002000	.002000	66/04/27	66/05/2.
01515	ALPHA-D	AS U-NAT	PC/L	39	.238461	.010850	.104164	.436817	.016680	.600000	.100000	68/01/03	71/09/30

Table 8
(Continued)

STORET DATE 73/03/16

02171500
33 27 15.0 080 09 25.0 2
SANTEE RIVER NEAR PINEVILLE
45

112WRD 06111204
0000

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01515	ALPHA-S	AS U-NAT	PC/L	39	.207692	.021701	.147585	.710595	.023632	.700000	.100000	68/01/03	71/09/30
01515	BETA-D	AS CS137	PC/L	39	4.11025	.343060	.626945	.152532	.100391	6.00000	1.90000	68/01/03	71/09/30
03516	BETA-S	AS CS137	PC/L	39	1.04871	.941514	.970316	.925244	.155375	6.10000	.400000	68/01/03	71/09/30
09503	RA-226	DISOLVED	PC/L	1	.040000					.040000	.040000	70/08/04	70/08/04
09510	RA-226-D	PLCHT CT	PC/L	10	.100000	.000000	.000000		.000000	.100000	.100000	68/01/03	68/10/15
09511	RA-226-D	RADON MT	PC/L	29	.041724	.000179	.013382	.320724	.002485	.070000	.020000	68/09/17	71/09/30
22703	U-NAT	DISOLVED	UG/L	9	.366666	.010000	.100001	.272729	.033334	.400000	.100000	68/01/03	68/09/17
31501	TOT COLI	MFIMENDO	/100ML	11	191.636	53795.7	231.939	1.21031	69.9322	867.000	50.0000	69/09/04	71/07/16
31616	FEC COLI	MFM-FCBR	/100ML	1	19.0000					19.0000	19.0000	72/12/13	72/12/13
32730	PHENOLS		UG/L	20	14600.0	.227E+09	15073.1	1.03241	3370.46	70000.0	5000.00	66/01/20	67/09/27
38260	MBAS		MG/L	2	.080000	.000800	.028285	.353557	.020000	.100000	.060000	66/03/25	71/02/17
70300	RESIDUE	DISS-180	C MG/L	65	58.4769	43.3799	6.58634	.112631	.816935	73.0000	45.0000	66/01/20	71/05/06
70301	DISS SOL	SUM	MG/L	28	54.7143	34.8055	5.89962	.107826	1.11492	65.0000	41.0000	67/10/23	71/05/06
70302	DISS SOL	TONS/DAY		64	105.174	32859.4	181.247	1.72330	22.6558	1480.00	42.0000	66/01/20	71/05/06
70303	DISS SOL	TONS PER	ACRE-FT	65	.079866	.000092	.009602	.120262	.001191	.100000	.060000	66/01/20	71/05/06
71850	NITRATE	NO3	MG/L	65	.466152	.091338	.302222	.648334	.037486	1.60000	.100000	66/01/20	71/05/06
71863	MANGNESE	MN.ELMTL	UG/L	1	.000000					.000000	.000000	71/02/17	71/02/17
71885	IRON	FE	UG/L	21	24.7619	376.191	19.3956	.783286	4.23248	70.0000	.000000	66/01/20	67/09/27
80020	U-DISS.	EXT.FLR.	UG/L	31	.048387	.004541	.067384	1.39261	.012103	.380000	.010000	68/02/16	71/09/30
80030	ALPHA-D	AS U-NAT	UG/L	40	.702497	.099225	.315001	.448402	.049806	1.90000	.400000	68/01/03	71/09/30
80040	ALPHA-S	AS U-NAT	UG/L	40	.639998	.156304	.395356	.617750	.062512	2.00000	.400000	68/01/03	71/09/30
80050	BETA-D	AS SR-Y-	90, PC/L	40	3.26499	.239790	.489683	.149967	.077426	4.80000	1.60000	68/01/03	71/09/30
80060	BETA-S	AS SR-Y-	90, PC/L	40	.914995	.650540	.806560	.881492	.127528	5.10000	.400000	68/01/03	71/09/30
80154	SUSP SED	CONC	MG/L	7	13.8571	92.8096	9.63277	.695221	3.64122	34.0000	6.00000	67/11/21	68/06/17
80155	SUSP SED	DISCHARG	TONS/DAY	7	24.7286	257.383	16.0431	.648770	6.06374	53.0000	9.10000	67/11/21	68/06/17

Table 8
(Continued)

STORET DATE 73/03/16

02171500
33 27 13.0 080 09 25.0 2
SANTEE RIVER NEAR PINEVILLE
45

112WPD 06111204
0000

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01516	ALPHA-S	AS U-NAT	PC/L	39	.207692	.021761	.147583	.710595	.023632	.700000	.100000	68/01/03	71/09/30
03515	BETA-D	AS CS137	PC/L	39	4.11025	.393060	.626945	.152532	.100391	6.00000	1.90000	68/01/03	71/09/30
03516	BETA-S	AS CS137	PC/L	39	1.04871	.941514	.970316	.925244	.155375	6.10000	.400000	68/01/03	71/09/30
04503	RA-226	DISOLVED	PC/L	1	.040000					.040000	.040000	70/08/04	70/08/04
09510	RA-226-D	PLCHT CT	PC/L	10	.100000	.000000	.000000		.000000	.100000	.100000	68/01/03	68/10/15
09511	RA-226-D	RADON MT	PC/L	29	.041724	.000179	.013382	.320724	.002485	.070000	.020000	68/09/17	71/09/30
22703	U-NAT	DISOLVED	UG/L	9	.366666	.010000	.100001	.272729	.033334	.400000	.100000	68/01/03	68/09/17
31501	TOT COLI	MFIMENDO	/100ML	11	191.636	53795.7	231.939	1.21031	69.9322	867.000	50.0000	69/09/04	71/07/16
31616	FEC COLI	MFM-FCBR	/100ML	1	19.0000					19.0000	19.0000	72/12/13	72/12/13
32730	PHENOLS		UG/L	20	14600.0	.227E+09	15073.1	1.03241	3370.46	70000.0	5000.00	66/01/20	67/09/27
38260	MBAS		MG/L	2	.080000	.000800	.028285	.353557	.020000	.100000	.060000	66/03/25	71/02/17
70300	RESIDUE	DISS-180	C MG/L	65	58.4769	43.3799	6.58634	.112631	.816935	73.0000	45.0000	66/01/20	71/05/06
70301	DISS SOL	SUM	MG/L	22	54.7143	34.2055	5.84962	.107825	1.11492	65.0000	41.0000	67/10/23	71/05/06
70302	DISS SOL	TONS/DAY		64	165.174	32850.4	181.247	1.72330	22.6558	1480.00	82.0000	66/01/20	71/05/06
70303	DISS SOL	TONS PER	ACRE-FT	65	.079846	.000092	.009602	.120262	.001191	.100000	.060000	66/01/20	71/05/06
71850	NITRATE	NO3	MG/L	65	.466152	.091338	.302222	.648334	.037486	1.60000	.100000	66/01/20	71/05/06
71883	MANGNESE	MN.ELMTL	UG/L	1	.000000					.000000	.000000	71/02/17	71/02/17
71885	IRON	FE	UG/L	21	24.7619	376.191	19.3956	.783286	4.23248	70.0000	.000000	66/01/20	67/09/27
80020	U-DISS.	EXT.FLR.	UG/L	31	.048387	.004541	.067384	1.39261	.012103	.380000	.010000	68/02/16	71/09/30
80030	ALPHA-D	AS U-NAT	UG/L	40	.702497	.099225	.315001	.448402	.049806	1.50000	.400000	68/01/03	71/09/30
80040	ALPHA-S	AS U-NAT	UG/L	40	.639998	.156308	.395358	.617750	.062512	2.00000	.400000	68/01/03	71/09/30
80050	BETA-D	AS SR-Y-	90, PC/L	40	3.28499	.239795	.489683	.149067	.077426	4.80000	1.50000	68/01/03	71/09/30
80060	BETA-S	AS SR-Y-	90, PC/L	40	.914995	.650540	.806560	.881492	.127528	5.10000	.400000	68/01/03	71/09/30
80154	SUSP SED	CONC	MG/L	7	13.8571	92.8096	9.63377	.695221	3.64122	34.0000	6.00000	67/11/21	68/06/17
80155	SUSP SED	DISCHARG	TONS/DAY	7	24.7286	257.383	16.0431	.648770	6.06374	53.0000	9.10000	67/11/21	68/06/17

Table 8
(Continued)

STORET DATE 73/03/16

AGENCY 112WRD

	STA BEG	STA END	# OF OBS	# OF SAMPLE	STA END-PERIOD OF RECD IN YRS =0	<.5	<3	>=3
<1952	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	1	0	647	24	0	0	0	0
1967	0	0	454	17	0	0	0	0
1968	0	0	499	24	0	0	0	0
1969	1	0	481	31	0	0	0	0
1970	0	0	335	41	0	0	0	0
1971	0	0	310	40	0	0	0	0
1972	0	2	41	13	0	0	0	2

Table 9

PERIOD OF RECORD FOR THE ST. STEPHENS AND PINEVILLE
WATER QUALITY STATIONS

STORET DATE 73/03/16

AGENCY 112WRD

	STA BEG	STA END	# OF OBS	# OF SAMPLE	STA END-PERIOD OF RECD IN YRS =0	<.5	<3	>=3
<1952	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	1	0	647	24	0	0	0	0
1967	0	0	454	17	0	0	0	0
1968	0	0	498	24	0	0	0	0
1969	1	0	481	31	0	0	0	0
1970	0	0	335	41	0	0	0	0
1971	0	0	310	40	0	0	0	0
1972	0	2	41	13	0	0	0	2

Table 9
(Continued)

STOWET DATE 73/03/16

AGENCY 1124RD

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	151	18.1140	61.9718	7.87221	.434592	.640632	31.1100	4.00000	66/01/20	72/12/13
00060	STREAM	FLOW	CFS	166	1173.21	.1405+08	3744.65	3.19179	290.641	31800.0	298.000	66/01/20	72/07/26
00061	STREAM	FLOW,	INST-CFS	5	529.400	686.800	26.1916	.050339	11.7132	553.000	490.000	72/07/26	72/12/13
00070	TURB	JKSN	JTU	5	8.60000	46.3000	6.80441	.791211	3.04203	15.0000	1.00000	69/10/28	71/12/15
00080	COLOR	PT-CO	UNITS	70	16.0857	410.514	20.2611	1.25957	2.42167	100.000	.000000	66/01/20	71/12/15
00095	CNDUCTVY	AT 25C	MICROMHO	120	85.5167	382.877	19.5672	.221067	1.78624	270.000	63.0000	66/01/20	72/12/13
00300	DO		MG/L	53	9.08225	3.39032	1.84128	.202742	.252920	14.3000	5.90000	69/09/04	72/12/13
00310	BOD	5 DAY	MG/L	8	1.32500	.299286	.547069	.412882	.193418	2.40000	.500000	69/10/28	71/12/15
00400	PH		SU	119	7.28483	30.6706	5.53805	.760209	.507727	67.0000	6.00000	66/01/20	72/12/13
00410	T ALK	CACO3	MG/L	67	23.0298	9.09032	3.01502	.130918	.368343	28.0000	16.0000	66/01/20	71/05/06
00440	HCO3 ION	HCO3	MG/L	67	28.1045	13.4890	3.67274	.130682	.448697	34.0000	17.0000	66/01/20	71/05/06
00445	CO3 ION	CO3	MG/L	66	.000000	.000000	.000000		.000000	.000000	.000000	66/01/20	71/05/06
00515	RESIDUE	DISS-105	C MG/L	39	58.0769	37.2319	6.10179	.105064	.977069	69.0000	33.0000	66/01/03	71/09/30
00530	RESIDUE	TOT NFLT	MG/L	41	9.68878	33.2976	5.77041	.637700	.901186	26.0000	2.00000	68/01/03	71/09/30
00618	NO3-N	DISS	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	71/08/26	71/09/09
00650	T PO4	PO4	MG/L	39	.009231	.000397	.019919	2.15789	.003190	.080000	.000000	66/01/20	69/12/23
00660	ORTHOPO4	PO4	MG/L	28	.005357	.000137	.011701	2.18412	.002211	.050000	.000000	67/10/23	71/05/06
00665	PHOS-T	P-WET	MG/L	19	.048316	.005269	.072598	1.56723	.016653	.300000	.000000	69/10/28	71/06/09
00900	TOT HARD	CACO3	MG/L	65	18.8615	3.02795	1.74010	.092257	.215833	24.0000	16.0000	66/01/20	71/05/06
00902	NC HARD	CACO3	MG/L	67	.059701	.238806	.488678	8.18535	.059701	4.00000	.000000	66/01/20	71/05/06
00915	CALCIUM	CA-DISS	MG/L	65	5.01381	.329995	.574363	.114586	.071241	6.30000	4.00000	66/01/20	71/05/06
00925	MGNSIUM	MG-DISS	MG/L	65	1.55076	.072863	.269932	.174064	.033481	2.40000	1.00000	66/01/20	71/05/06
00930	SODIUM	NA-DISS	MG/L	65	9.26304	3.04272	1.74434	.188312	.216359	13.0000	5.90000	66/01/20	71/05/06
00931	SODIUM	ADSRTION	RATIO	65	.926149	.026968	.164219	.177314	.020368	1.30000	.700000	66/01/20	71/05/06
00932	PERCENT	SODIUM	%	65	48.4461	16.9707	4.11955	.085024	.510997	58.0000	41.0000	66/01/20	71/05/06
00935	PTSSIUM	K-DISS	MG/L	65	1.67538	.103146	.321164	.191696	.039835	2.60000	1.10000	66/01/20	71/05/06
00940	CHLORIDE	CL	MG/L	67	7.94179	8.91371	2.98558	.375935	.364747	28.0000	3.60000	66/01/20	71/05/06
00945	SULFATE	SO4	MG/L	67	7.22881	3.47814	1.86498	.258063	.227843	13.0000	4.00000	66/01/20	71/05/06
00950	FLUORIDE	F-DISS	MG/L	67	.147761	.003746	.061196	.414154	.007476	.300000	.000000	66/01/20	71/05/06
00955	SILICA	DISOLVED	MG/L	65	7.28149	4.32003	2.07847	.285446	.257802	11.0000	1.60000	66/01/20	71/05/06
01030	CHROMIUM	CR-DISS	UG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/28	70/10/21
01040	COPPER	CU-DISS	UG/L	7	13.5986	172.393	13.1299	.966954	4.96262	30.0000	.020000	66/04/27	70/10/21
01045	IRON	TOTAL	UG/L	1	183.000					183.000	183.000	69/10/28	69/10/28
01046	IRON	FE-DISS	UG/L	50	7.14257	209.781	14.4838	2.02782	2.04832	70.0000	.000000	66/01/20	71/05/06
01049	LEAD	PB-DISS	UG/L	15	1.20020	21.5995	4.64752	3.87229	1.19999	18.0000	.000000	66/04/27	71/06/09
01055	MANGNESE	MN	UG/L	8	5.00125	57.1286	7.55834	1.51129	2.67228	20.0000	.000000	66/04/27	69/10/28
01056	MANGNESE	MN-DISS	UG/L	7	7.14428	357.119	18.8976	2.64513	7.14262	50.0000	.000000	68/06/17	70/10/21
01065	NICKEL	NI-DISS	UG/L	7	1.14314	9.14209	3.02359	2.64498	1.14281	8.00000	.000000	66/04/27	70/10/2.
01080	STRONTUM	SR-DISS	UG/L	5	66.0440	3622.75	60.1893	.911351	26.9174	110.000	.110000	66/04/27	66/06/27
01090	ZINC	ZN-DISS	UG/L	5	6.00400	79.9401	8.94092	1.48918	3.99850	20.0000	.000000	66/04/27	66/06/27

INVENTORY OF BOTH ST. STEPHENS AND PINEVILLE
WATER QUALITY STATIONS FOR PERIOD OF RECORD

STORET DATE 73/03/16

AGENCY 112/RD

Table 10
(Continued)

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	151	18.1140	61.9718	7.87221	.434592	.640632	31.1100	4.00000	66/01/20	72/12/13
00060	STREAM	FLOW	CFS	166	1173.21	.140E+08	3744.65	3.19179	290.641	31800.0	298.000	66/01/20	72/07/26
00061	STREAM	FLOW,	INST-CFS	5	520.400	686.000	26.1916	.050330	11.7132	553.000	480.000	72/07/26	72/12/13
00070	TURB	JKSN	JTU	5	8.60000	46.3000	6.80441	.791211	3.04303	15.0000	1.00000	69/10/28	71/12/15
00080	COLOR	PT-CO	UNITS	70	16.0857	410.514	20.2611	1.25957	2.42167	100.000	.000000	66/01/20	71/12/15
00095	CNDUCTVY	AT 25C	MICROMHO	120	88.5167	382.877	19.5672	.221057	1.78624	270.000	63.0000	66/01/20	72/12/13
00300	DO		MG/L	53	9.06225	3.34032	1.84128	.203182	.252920	14.3000	5.90000	69/09/04	72/12/13
00310	BOD	5 DAY	MG/L	8	1.32500	.299284	.547069	.412882	.193418	2.40000	.500000	69/10/28	71/12/15
00400	PH		SU	119	7.28483	30.6746	5.53855	.760299	.507727	67.0000	6.00000	66/01/20	72/12/13
00410	T ALK	CACO3	MG/L	67	23.0298	9.09032	3.01502	.130918	.368343	28.0000	14.0000	66/01/20	71/05/06
00440	HCO3 ION	HCO3	MG/L	67	28.1045	13.4890	3.67274	.130682	.448697	34.0000	17.0000	66/01/20	71/05/06
00445	CO3 ION	CO3	MG/L	66	.000000	.000000	.000000		.000000	.000000	.000000	66/01/20	71/05/06
00515	RESIDUE	DISS-105	C MG/L	39	58.0769	37.2319	6.10179	.105064	.977069	69.0000	33.0000	68/01/03	71/09/30
00540	RESIDUE	TOT NFLT	MG/L	41	9.04878	33.2976	5.77041	.637700	.901186	28.0000	2.00000	68/01/03	71/09/30
00618	NO3-N	DISS	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	71/08/26	71/09/09
00650	T PO4	PO4	MG/L	34	.009231	.000397	.019919	2.15788	.003190	.080000	.000000	66/01/20	69/12/23
00660	ORTHOPO4	PO4	MG/L	28	.005357	.000137	.011701	2.18412	.002211	.050000	.000000	67/10/23	71/05/06
00665	PHOS-T	P-WET	MG/L	19	.046316	.005269	.072598	1.56723	.016655	.300000	.000000	69/10/28	71/06/09
00900	TOT HARD	CACO3	MG/L	65	18.8615	3.02795	1.74010	.092257	.215833	24.0000	16.0000	66/01/20	71/05/06
00902	NC HARD	CACO3	MG/L	67	.059701	.238806	.488678	8.18535	.059701	4.00000	.000000	66/01/20	71/05/06
00915	CALCIUM	CA-DISS	MG/L	65	5.01381	.329065	.573665	.114456	.071241	6.30000	4.00000	66/01/20	71/05/06
00925	MGNSIUM	MG-DISS	MG/L	65	1.55076	.072863	.269932	.174064	.033481	2.40000	1.00000	66/01/20	71/05/06
00930	SODIUM	NA-DISS	MG/L	65	9.28304	3.04272	1.74434	.188312	.216359	13.0000	5.90000	66/01/20	71/05/06
00931	SODIUM	ADSHTION	RATIO	65	.926149	.026968	.164219	.177314	.020369	1.30000	.700000	66/01/20	71/05/06
00932	PERCENT	SODIUM	%	65	48.4461	16.9707	4.11955	.085034	.510967	58.0000	41.0000	66/01/20	71/05/06
00935	PTSSIUM	K-DISS	MG/L	65	1.67538	.103146	.321164	.191696	.039835	2.50000	1.10000	66/01/20	71/05/06
00940	CHLORIDE	CL	MG/L	67	7.94175	8.91371	2.98558	.375935	.364747	28.0000	3.60000	66/01/20	71/05/06
00945	SULFATE	SO4	MG/L	67	7.22681	3.47814	1.86498	.258063	.227843	13.0000	4.00000	66/01/20	71/05/06
00950	FLUORIDE	F-DISS	MG/L	67	.147761	.003745	.061196	.414154	.007476	.300000	.000000	66/01/20	71/05/06
00955	SILICA	DISOLVED	MG/L	65	7.28149	4.32003	2.07847	.285446	.257802	11.0000	1.60000	66/01/20	71/05/06
01030	CHROMIUM	CR-DISS	UG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/28	70/10/21
01040	COPPER	CU-DISS	UG/L	7	13.5786	172.393	13.1299	.966954	4.96262	30.0000	.020000	66/04/27	70/10/21
01045	IRON	TOTAL	UG/L	1	183.000					183.000	183.000	69/10/28	69/10/28
01046	IRON	FE-DISS	UG/L	50	7.14257	209.761	14.4838	2.02782	2.04832	70.0000	.000000	66/01/20	71/05/06
01049	LEAD	PB-DISS	UG/L	15	1.20020	21.5995	4.64752	3.87229	1.19999	18.0000	.000000	66/04/27	71/06/09
01055	MANGNESE	MN	UG/L	8	5.00125	57.1286	7.55834	1.51129	2.67220	20.0000	.000000	66/04/27	69/10/28
01056	MANGNESE	MN-DISS	UG/L	7	7.14428	337.119	18.3976	2.64513	7.14262	50.0000	.000000	68/06/17	70/10/21
01065	NICKEL	NI-DISS	UG/L	7	1.14314	9.14209	3.02359	2.64498	1.14261	8.00000	.000000	66/04/27	70/10/21
01080	STRONTUM	SR-DISS	UG/L	5	66.0440	3622.75	60.1893	.911351	26.9174	110.000	.110000	66/04/27	66/06/27
01090	ZINC	ZN-DISS	UG/L	5	6.00400	79.9401	8.94092	1.48916	3.99850	20.0000	.000000	66/04/27	66/06/27

Table 10
(Continued)

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01105	ALUMINUM	AL.TOT	UG/L	5	80.0599	6988.02	83.5944	1.04415	37.3845	200.000	.100000	66/04/27	66/06/27
01106	ALUMINUM	AL.DISS	UG/L	3	100.000	10000.0	100.000	1.00000	57.7350	200.000	.000000	68/04/16	69/06/17
01130	LITHIUM	LI.DISS	UG/L	2	.002000	.100E-10	.000003	.001581	.000002	.002000	.002000	66/04/27	66/05/27
01503	ALPHA	DISOLVED	PC/L	2	.150000	.005000	.070711	.471404	.050000	.200000	.100000	69/10/28	70/10/21
01505	ALPHA	SUSP	PC/L	2	.100000	-.372E-08	.000000		.000000	.100000	.100000	69/10/28	70/10/21
01515	ALPHA-D	AS U-NAT	PC/L	39	.238461	.010850	.104164	.436817	.016680	.600000	.100000	68/01/03	71/09/30
01516	ALPHA-S	AS U-NAT	PC/L	39	.207692	.021781	.147585	.710595	.023632	.700000	.100000	68/01/03	71/09/30
03503	BETA	DISOLVED	PC/L	2	9.39999	62.7202	7.91961	.842512	5.60001	15.0000	3.80000	69/10/28	70/10/21
03505	BETA	SUSP	PC/L	2	.450000	.005000	.070711	.157135	.050000	.500000	.400000	69/10/28	70/10/21
03515	BETA-D	AS CS137	PC/L	39	4.11065	.393060	.626945	.152532	.100391	6.00000	1.90000	68/01/03	71/09/30
03516	BETA-S	AS CS137	PC/L	39	1.04871	.941514	.970316	.925244	.155375	6.10000	.400000	68/01/03	71/09/30
09503	RA-226	DISOLVED	PC/L	1	.040000					.040000	.040000	70/08/04	70/08/04
09510	RA-226-D	PLCHT CT	PC/L	10	.100000	.000000	.000000		.000000	.100000	.100000	66/01/03	66/10/15
09511	RA-226-D	RADON MT	PC/L	29	.041724	.000179	.013382	.320724	.002485	.070000	.020000	68/05/17	71/09/30
22703	U-NAT	DISOLVED	UG/L	9	.366666	.010000	.100001	.272729	.033334	.400000	.100000	68/01/03	68/09/17
31501	TOT COLI	MFIMENDO	/100ML	11	191.636	53795.7	231.939	1.21031	69.9322	867.000	50.0000	69/09/04	71/07/16
31616	FEC COLI	MFM-FCBR	/100ML	8	232.000	317571	563.535	2.42903	199.240	1625.00	16.0000	71/08/26	72/12/13
32730	PHENOLS		UG/L	20	14600.0	.227E+09	15073.1	1.03241	3370.46	70000.0	5000.00	66/01/20	67/09/27
38260	MBAS		MG/L	4	.052500	.001692	.041130	.783427	.020565	.100000	.000000	66/03/25	71/02/17
70300	RESIDUE	DISS-180 C	MG/L	67	58.5671	42.4024	6.51172	.111184	.795533	73.0000	45.0000	66/01/20	71/05/06
70301	DISS SOL	SUM	MG/L	26	54.7143	34.8055	5.89962	.107826	1.11492	65.0000	41.0000	67/10/23	71/05/06
70302	DISS SOL	TONS/DAY		65	105.249	32337.5	179.826	1.70859	22.3047	1430.00	42.0000	66/01/20	71/05/06
70303	DISS SOL	TONS PER	ACRE-FT	67	.080000	.000091	.009537	.119212	.001165	.100000	.050000	66/01/20	71/05/06
71850	NITRATE	NO3	MG/L	86	.427905	.091448	.302404	.706709	.032609	1.40000	.000000	66/01/20	71/09/09
71890	MANGNESE	MN.ELMTL	UG/L	1	.000000					.000000	.000000	71/02/17	71/02/17
71845	IRON	FE	UG/L	21	24.7619	376.191	19.3956	.783286	4.23248	70.0000	.000000	66/01/20	67/09/27
80020	U-DISS.	EXT.FLR.	UG/L	31	.048387	.004541	.067384	1.39261	.012103	.380000	.010000	68/02/16	71/09/30
80030	ALPHA-D	AS U-NAT	UG/L	40	.702497	.099225	.315001	.448402	.049806	1.90000	.400000	68/01/03	71/09/30
80040	ALPHA-S	AS U-NAT	UG/L	40	.639998	.156308	.395358	.617750	.062512	2.00000	.400000	68/01/03	71/09/30
80050	BETA-D	AS SR-Y-	90. PC/L	40	3.28499	.239790	.489683	.149067	.077426	6.80000	1.60000	68/01/03	71/09/30
80060	BETA-S	AS SR-Y-	90. PC/L	40	.914995	.650540	.806560	.881492	.127528	5.10000	.400000	68/01/03	71/09/30
80154	SUSP SED	CONC	MG/L	7	13.8571	92.8096	9.63377	.695221	3.64122	34.0000	6.00000	67/11/21	68/06/17
80155	SUSP SED	DISCHARG	TONS/DAY	7	24.7286	257.383	16.0431	.648770	6.06374	53.0000	9.10000	67/11/21	68/06/17

Table 10
(Continued)

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01105	ALUMINUM	AL.TOT	UG/L	5	80.0549	6908.02	83.5944	1.04415	37.3845	200.000	.100000	66/04/27	66/06/27
01106	ALUMINUM	AL.DISS	UG/L	3	100.000	10000.0	100.000	1.00000	57.7350	200.000	.000000	66/04/16	69/06/17
01130	LITHIUM	LI.DISS	UG/L	2	.002000	.100E-10	.000003	.001581	.000002	.002000	.002000	66/04/27	66/05/27
01503	ALPHA	DISOLVED	PC/L	2	.150000	.005000	.070711	.471404	.050000	.200000	.100000	69/10/28	70/10/21
01505	ALPHA	SUSP	PC/L	2	.100000	-.372E-08	.000000		.000000	.100000	.100000	69/10/28	70/10/21
01515	ALPHA-D	AS U-NAT	PC/L	39	.238461	.010850	.104164	.436817	.016680	.600000	.100000	68/01/03	71/09/30
01516	ALPHA-S	AS U-NAT	PC/L	39	.207692	.021781	.147585	.710595	.023632	.700000	.100000	68/01/03	71/09/30
03503	BETA	DISOLVED	PC/L	2	9.39499	62.7202	7.91961	.842512	5.60001	15.0000	3.80000	69/10/28	70/10/21
03505	BETA	SUSP	PC/L	2	.450000	.005000	.070711	.157135	.050000	.500000	.400000	69/10/28	70/10/21
03515	BETA-D	AS CS137	PC/L	39	4.11025	.393050	.626945	.152532	.100391	9.00000	1.90000	68/01/03	71/09/30
03516	BETA-S	AS CS137	PC/L	39	1.04871	.941514	.970316	.925244	.155375	6.10000	.400000	68/01/03	71/09/30
09503	RA-226	DISOLVED	PC/L	1	.040000				.000000	.040000	.040000	70/08/04	70/08/04
09510	RA-226-D	PLCNT CT	PC/L	10	.100000	.000000	.000000		.000000	.100000	.100000	68/01/03	68/10/15
09511	RA-226-D	RADON MT	PC/L	29	.041724	.000179	.013382	.320726	.002485	.070000	.020000	68/09/17	71/09/30
22703	U-NAT	DISOLVED	UG/L	9	.355555	.010000	.100001	.272729	.033334	.400000	.100000	66/01/03	68/09/17
31501	TOT COLI	MFIMEDIUD	/100ML	11	141.636	54748.7	231.839	1.21631	69.9322	867.000	50.0000	69/09/04	71/07/16
31616	FEC COLI	MFM-FCBR	/100ML	8	232.000	317571	563.535	2.42993	199.240	1625.00	16.0000	71/08/25	72/12/13
32730	PHENOLS		UG/L	20	14800.0	.227E+09	15073.1	1.01841	3370.46	70000.0	5000.00	66/01/20	67/04/27
38260	MBAS		MG/L	4	.052500	.001892	.043130	.782627	.020565	.100000	.000000	66/03/25	71/02/17
70300	RESIDUE	DISS-180	C MG/L	67	58.9571	42.4024	6.51172	.111184	.795533	73.0000	45.0000	66/01/20	71/05/06
70301	DISS SOL	SUM	MG/L	28	54.7143	34.8055	5.89962	.107826	1.11492	65.0000	41.0000	67/10/23	71/05/06
70302	DISS SOL	TONS/DAY		65	105.269	32337.5	179.826	1.70859	22.3047	1400.00	42.0000	66/01/20	71/05/06
70303	DISS SOL	TONS PER	ACRE-FT	67	.086300	.000091	.009537	.110512	.001165	.160000	.050000	66/01/20	71/05/06
71850	NITRATE	NO3	MG/L	85	.627905	.091448	.302404	.705709	.032809	1.60000	.000000	66/01/20	71/09/09
71863	MANGNESE	MN.ELMTL	UG/L	1	.000000				.000000	.000000	.000000	71/02/17	71/02/17
71865	IRON	FE	UG/L	21	24.7619	376.191	19.3956	.783286	4.23248	70.0000	.000000	66/01/20	67/04/27
80029	U-DISS.	EXT.FLR.	UG/L	31	.048387	.000541	.023264	1.39261	.012103	.380000	.010000	68/02/16	71/09/30
80030	ALPHA-D	AS U-NAT	UG/L	40	.782497	.093225	.315001	.448402	.049806	1.90000	.400000	68/01/03	71/09/30
80040	ALPHA-S	AS U-NAT	UG/L	40	.639728	.139306	.345358	.617750	.062512	2.00000	.400000	68/01/03	71/09/30
80050	BETA-D	AS SR-Y-	90. PC/L	40	3.28849	.239730	.456883	.143667	.077426	4.40000	1.60000	68/01/03	71/09/30
80060	BETA-S	AS SR-Y-	90. PC/L	40	.914995	.656540	.806560	.881492	.127528	5.10000	.400000	68/01/03	71/09/30
80154	SUSP SED	CONC	MG/L	7	13.8571	92.6096	9.63377	.695221	3.64122	34.0000	6.00000	67/11/21	68/06/17
80155	SUSP SED	DISCHARG	TONS/DAY	7	24.7286	257.383	16.0431	.648770	6.06374	53.0000	9.10000	67/11/21	68/06/17

STORET DATE 73/03/16

ST-001

BRDG OVER SANTEE RVR ON SC 41
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
21SC60WD 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	WSAMPLOC	% FROM	RT BANK	2	30.0000	800.000	28.2843	.942809	20.0000	50.0000	10.0000	72/12/19	73/01/30
00010	WATER	TEMP	CENT	21	20.9762	46.7375	6.83648	.325916	1.49184	31.5000	7.50000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	5	22.4000	33.8003	5.81381	.259545	2.60001	25.0000	12.0000	63/05/20	72/04/03
00075	TURB	HLGE	PPM SIO2	7	7.90000	17.7034	4.20754	.532600	1.59030	12.9000	2.00000	71/10/28	73/01/30
00080	COLOR	PT-CO	UNITS	12	71.2500	582.386	24.1327	.338704	6.96650	100.000	25.0000	63/05/20	73/01/30
00300	DO		MG/L	20	8.50499	2.48445	1.57621	.185328	.352452	11.9500	6.90000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	18	92.1111	49.9926	7.07055	.076761	1.66654	100.000	79.0000	55/05/09	72/07/25
00310	BOD	5 DAY	MG/L	20	2.59000	2.43990	1.56202	.603097	.349278	6.50000	.800000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	1	77.8000					77.8000	77.8000	72/12/19	72/12/19
00400	PH		SU	2	6.80000	-.152E-04	.000000		.000000	6.80000	6.80000	72/12/19	73/01/30
00403	LAB	PH	SU	20	7.03499	.278719	.527938	.075044	.118050	8.00000	5.60000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	20	30.3500	42.9772	6.55570	.216003	1.46590	42.0000	13.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	6	5.05166	205.316	14.3308	2.40754	5.84973	35.2000	.000000	72/03/21	73/01/30
00660	ORTHOPO4	PO4	MG/L	6	.088333	.006177	.078592	.889717	.032085	.180000	.000000	72/03/21	73/01/30
00940	CHLORIDE	CL	MG/L	1	26.0000					26.0000	26.0000	73/01/30	73/01/30
01042	COPPER	CU,TOT	UG/L	1	17.0000					17.0000	17.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	1	3.00000					3.00000	3.00000	73/01/30	73/01/30
31501	TOT COLI	MFIMENDO	/100ML	1	200.000					200.000	200.000	72/04/03	72/04/03
31615	FEC COLI	MPNECMED	/100ML	5	10.0000	500.000	22.3607	2.23607	10.0000	50.0000	.000000	71/10/28	72/04/03
31616	FEC COLI	MFM-FCBR	/100ML	3	19.3333	641.334	25.3246	1.30989	14.6211	48.0000	.000000	72/07/25	73/01/30
70300	RESIDUE	DISS-180	C MG/L	1	61.8000					61.8000	61.8000	55/05/09	55/05/09
71205	COLIFORM	MPN PRES	/100ML	11	5157.27	.508E+08	7130.67	1.38264	2149.98	16000.0	.000000	55/05/09	72/03/23
72015	TOP OPTH	OF SMPLE	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

STATION INVENTORY FOR PERIOD OF RECORD

STONET DATE 73/03/16

ST-001

HROG OVER SANTEE RVR ON SC 41
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
21SC60WQ 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	HSAMPLOC	A FROM	PT BANK	2	30.0000	800.000	28.2843	.942809	20.0000	50.0000	10.0000	72/12/19	73/01/30
00010	WATER	TEMP	CENT	21	20.9762	46.7375	6.83944	.325916	1.49284	31.5000	7.50000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	5	22.4000	33.8003	5.81381	.259545	2.60001	25.0000	12.0000	63/05/20	72/04/03
00075	TURB	HLGE	PPM SIO2	7	7.00000	17.7034	4.20794	.538600	1.59070	12.0000	2.00000	71/10/26	73/01/30
00080	COLOR	PT-CO	UNITS	12	71.2500	582.386	24.1327	.338704	6.96550	100.000	25.0000	63/05/20	73/01/30
00300	DO		MG/L	20	8.50450	2.48865	1.57721	.185428	.352652	11.9500	6.90000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	18	98.1111	60.3824	7.77056	.079761	1.86654	109.000	74.0000	55/05/09	72/07/25
00310	BOD	5 DAY	MG/L	20	2.50000	2.63990	1.62482	.603047	.349278	6.50000	.000000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	1	77.0000					77.0000	77.0000	72/12/19	72/12/19
00400	PH		SU	2	6.50000	1.52E-04	.000000		.000000	6.50000	6.50000	72/12/19	73/01/30
00403	LAB	PH	SU	20	7.03450	.278719	.527938	.075044	.118050	8.00000	5.60000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	20	30.3500	42.9272	6.55170	.216003	1.46520	42.0000	13.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	6	5.05100	205.316	14.3288	2.40754	5.84973	35.2000	.000000	72/03/21	73/01/30
00665	PHOSPHOR	PO4	MG/L	6	.080333	.006177	.078592	.889717	.032085	.190000	.000000	72/03/21	73/01/30
00940	CHLORIDE	CL	MG/L	1	26.0000					26.0000	26.0000	73/01/30	73/01/30
01042	COPPER	CU,TOT	UG/L	1	17.0000					17.0000	17.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	1	3.00000					3.00000	3.00000	73/01/30	73/01/30
31501	TOT COLI	MFIMENDO	/100ML	1	200.000					200.000	200.000	72/04/03	72/04/03
31615	FEC COLI	MPNECMED	/100ML	5	10.0000	500.000	22.3607	2.23607	10.0000	50.0000	.000000	71/10/26	72/04/03
31616	FEC COLI	MFM-FCNR	/100ML	3	14.3333	641.334	25.3246	1.30989	14.6211	48.0000	.000000	72/07/25	73/01/30
70300	RESIDUE	DISS-180	C MG/L	1	61.0000					61.0000	61.0000	55/05/09	55/05/09
71905	COLIFORM	MPN PRES	/100ML	11	5157.27	.50ME+08	7130.67	1.38264	2149.98	16000.0	.000000	55/05/09	72/01/23
72019	TOP DEPTH	OF SAMPLE	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

Table 11
(Continued)

STORET DATE 73/03/16

ST-002

SANTEE RVR UNDER POWER LINES
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
215040X0 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	HSAMPLOC	% FROM	RT BANK	2	30.0000	800.000	28.2843	.942809	20.0000	50.0000	10.0000	72/12/19	73/01/30
00010	WATER	TEMP	CENT	22	21.1818	47.4421	6.88702	.325176	1.46849	31.5000	7.50000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	5	25.0000	.000000	.000000		.000000	25.0000	25.0000	63/05/20	63/05/24
00075	TURB	HLGE	PPM SIO2	8	8.65000	20.1086	4.48426	.518411	1.58562	14.7000	2.00000	71/10/28	73/01/30
00080	COLOR	PT-CO	UNITS	13	73.0769	631.416	25.1286	.343857	6.96925	120.000	25.0000	63/05/20	73/01/30
00300	DO		MG/L	21	8.49285	2.59984	1.61240	.189854	.351855	12.1000	6.60000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	19	91.4474	63.3611	7.95997	.087044	1.82614	100.000	80.0000	55/05/09	72/07/25
00310	BOD	5 DAY	MG/L	21	3.28333	6.61603	2.57216	.760247	.561292	10.6500	.400000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	1	62.2000					62.2000	62.2000	72/12/19	72/12/19
00400	PH		SU	2	6.90000	.019989	.141352	.020490	.099973	7.00000	6.80000	72/12/19	73/01/30
00403	LAB	PH	SU	20	7.01249	.409637	.639872	.091247	.143080	7.48000	5.50000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	20	32.2500	30.6184	5.53339	.171578	1.23730	41.0000	20.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	6	.173333	.001707	.041312	.238340	.016866	.250000	.130000	72/03/21	73/01/30
00660	ORTHOPO4	PO4	MG/L	6	.045000	.004870	.069785	1.55078	.028490	.140000	.000000	72/03/21	73/01/30
01042	COPPER	CU,TOT	UG/L	1	25.0000					25.0000	25.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	1	3.00000					3.00000	3.00000	73/01/30	73/01/30
31501	TOT COLI	MFIMENDO	/100ML	1	400.000					400.000	400.000	72/04/03	72/04/03
31615	FEC COLI	MPNECHED	/100ML	5	14.0000	980.000	31.3049	2.23607	14.0000	70.0000	.000000	71/10/28	72/04/03
31616	FEC COLI	MFM-FCHR	/100ML	3	36.6667	3033.33	55.0757	1.50206	31.7980	100.000	.000000	72/07/25	73/01/30
71305	COLIFORM	MPN PRES	/100ML	12	2469.00	.2066+08	4546.60	1.84147	1312.49	16000.0	.000000	55/05/09	72/03/23
72015	TOP DPTH	OF SMPLE	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

STATION INVENTORY FOR PERIOD OF RECORD

STO-ET DATE 73/03/16

ST-002

SANTEE RVR UNDER POWER LINES
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
215C6040 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00052	%SAMPLOC	% FROM	RT BANK	2	20.0000	800.000	28.2843	1.42809	20.0000	50.0000	10.0000	72/12/19	73/01/30
00010	WATEM	TEMP	CENT	22	21.1618	47.4421	6.88782	.325176	1.46849	31.5000	7.50000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	5	25.0000	.000000	.000000		.000000	25.0000	25.0000	63/05/20	63/05/24
00075	TURB	HLGE	PPM SIO2	8	8.65000	20.1086	4.48426	.518411	1.58542	14.7000	2.00000	71/10/28	73/01/30
00080	COLOR	PT-CO	UNITS	13	73.0769	631.410	25.1280	.343857	6.96925	120.000	25.0000	63/05/20	73/01/30
00299	DO		MG/L	21	8.49605	2.56944	1.61843	.190494	.351065	12.1000	6.60000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	19	91.6474	63.3511	7.95997	.086864	1.82614	106.000	86.0000	55/05/09	72/07/25
00310	BOD	5 DAY	MG/L	21	3.38333	6.61503	2.57216	.760247	.561292	10.6000	.800000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	1	64.2000					64.2000	64.2000	72/12/19	72/12/19
00400	PH		SU	2	6.90000	.010000	.141382	.020498	.099973	7.00000	6.80000	72/12/19	73/01/30
00403	LAB	PH	SU	20	7.01250	.409437	.639872	.091247	.143060	7.90000	5.90000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	20	32.2500	30.6184	5.53333	.171578	1.23730	41.0000	25.0000	55/05/09	73/01/30
00630	NO3NO2	N-TOTAL	MG/L	6	.173333	.001797	.041312	.238360	.016868	.250000	.130000	72/03/21	73/01/30
00660	ORTHOPO4	P04	MG/L	5	.048000	.004078	.063785	1.55078	.028530	.160000	.000000	72/03/21	73/01/30
01042	COPPER	CU,TOT	UG/L	1	25.0000					25.0000	25.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	1	3.00000					3.00000	3.00000	73/01/30	73/01/30
31501	TOT COLI	MFIMENDO	/100ML	1	400.000					400.000	400.000	72/04/03	72/04/03
31615	FEC COLI	MPNECMED	/100ML	5	14.0000	980.000	31.3049	2.23607	14.0000	70.0000	.000000	71/10/28	72/04/03
31616	FEC COLI	MFM-FCAR	/100ML	3	35.6667	3933.33	54.0757	1.50206	31.7980	100.000	.000000	72/07/25	73/01/30
71205	COLIFORM	MPN PRES	/100ML	12	2469.00	.206E+08	4546.60	1.84147	1312.49	16000.0	.000000	55/05/09	72/03/23
72015	TOP DPTH	OF SMPLE	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

Table 12
(Continued)

STORET DATE 73/03/16

SI-003

SANTEE RVR 3 MI BELOW OUTFALL
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
2130040 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ED	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	MSAMPLOC	% FROM	01 RANK	5	27.0000	227.500	14.9049	.533513	6.66205	50.0000	10.0000	72/03/21	73/01/30
00010	WATEM	TEMP	CENT	21	21.0714	47.8329	6.91611	.328222	1.50922	31.5000	7.50000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	5	25.6000	.000000	.000000		.000000	25.6000	25.6000	63/05/20	63/05/24
00075	TURB	MLGE	PPM SIO2	7	6.00000	16.6833	4.01040	.501300	1.51579	12.0000	2.00000	72/03/21	73/01/30
00080	COLOR	PT-CO	UNITS	12	60.5000	574.295	23.9636	.359451	6.91766	105.000	25.0000	63/05/20	73/01/30
00299	DO		MG/L	26	8.42423	2.58057	1.60685	.190774	.324158	12.2000	6.00000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	18	92.1111	47.5228	6.89362	.274840	1.62484	108.000	81.0000	55/05/09	72/07/25
00310	BOD	5 DAY	MG/L	20	2.93250	3.89629	1.75906	.599851	.393338	7.40000	.800000	55/05/09	73/01/30
00340	COD	MI LEVEL	MG/L	1	70.0000					70.0000	70.0000	72/12/19	72/12/19
00400	PH		SU	2	6.85000	.004050	.070637	.010312	.049968	6.95000	6.80000	72/12/19	73/01/30
00403	LAB	PH	SU	19	6.97631	.335494	.500001	.063150	.133080	7.60000	6.70000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	19	39.7895	93.5102	7.31507	.237583	1.67819	48.0000	10.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	6	.156333	.001937	.044008	.277442	.017966	.200000	.080000	72/03/21	73/01/30
00660	ORTHOPO4	PO4	MG/L	6	.016667	.000667	.025820	1.54919	.010541	.050000	.000000	72/03/21	73/01/30
01042	COPPER	CU-TOT	UG/L	1	33.0000					33.0000	33.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	4	3.00000					3.00000	3.00000	73/01/30	73/01/30
31501	TOT COLI	MFIMENDO	/100ML	1	100.000					100.000	100.000	72/04/03	72/04/03
31613	FEC COLI	MPNECMED	/100ML	4	25.0000	2500.00	50.0000	2.00000	25.0000	100.000	.000000	72/03/21	72/04/03
31616	FEC COLI	MFM-FCHR	/100ML	3	36.6667	3033.33	55.0757	1.50206	31.7980	100.000	.000000	72/07/25	73/01/30
70303	RESIDUE	DISS-180	C MG/L	1	60.0000					60.0000	60.0000	55/05/09	55/05/09
71205	COLIFORM	MPN PRES	/100ML	12	2790.00	.213E+08	4625.24	1.65779	1335.19	16000.0	.000000	55/05/09	72/03/23
72015	TOP DPTH	OF SMPLE	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

STATION INVENTORY FOR PERIOD OF RECORD

STOWET DATE 73/03/16

ST-003

SANTEE RVR 3 MI BELOW OUTFALL
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
215048+3 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	HSAMPLOC	% FROM	PT BANK	5	27.0000	207.500	14.4049	.533513	6.44209	50.0000	10.0000	72/03/21	73/01/30
00010	WATEM	TEMP	CENT	21	21.0714	47.8326	6.91611	.328222	1.50922	31.5000	7.50000	72/05/09	73/01/30
00070	TURB	JKSN	JTU	5	29.0000	.000000	.000000		.000000	29.0000	29.0000	63/05/28	63/05/24
00075	TURB	HLGE	PPM SIO2	7	8.05000	14.0833	3.81640	.581383	1.51579	12.0000	2.00000	72/03/21	73/01/30
00080	COLOR	PT-CO	UNITS	12	60.0000	574.545	23.9634	.399451	6.91744	100.000	25.0000	63/05/28	73/01/30
00300	DO		MG/L	26	6.47692	2.50037	1.58123	.188774	.304159	12.3000	4.00000	72/05/09	72/12/19
00301	DO	SATUP	PERCENT	18	93.1111	47.5720	6.89782	.074060	1.62484	105.000	81.0000	72/05/09	72/07/25
00310	HDO	% DAY	MG/L	20	2.44750	3.85429	1.75906	.599091	.393138	7.40000	.800000	72/05/09	73/01/30
00340	COD	MI LEVEL	MG/L	1	70.0000					70.0000	70.0000	72/12/19	72/12/19
00400	PH		SU	2	6.85000	.000000	.070637	.010312	.049948	6.90000	6.80000	72/12/19	73/01/30
00403	LAB	PH	SU	17	6.47031	.238494	.488381	.063150	.133080	7.60000	5.70000	72/05/09	73/01/30
00410	T ALK	CACO3	MG/L	19	30.7895	52.5102	7.31567	.237683	1.67819	40.0000	10.0000	72/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	6	.156333	.001937	.044008	.281442	.017966	.200000	.080000	72/03/21	73/01/30
00665	PHTHSPHS	PHS	MG/L	6	.316667	.000697	.026403	1.54919	.010341	.350000	.280000	72/03/21	73/01/30
01042	COPPER	CU,TOT	UG/L	1	33.0000					33.0000	33.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	1	3.00000					3.00000	3.00000	73/01/30	73/01/30
31501	TOT COLI	MEMBRANE	/100ML	1	100.000					100.000	100.000	72/04/03	72/04/03
31615	FEC COLI	MEMBRANE	/100ML	4	49.0000	2500.00	50.0000	2.00000	25.0000	100.000	.000000	72/03/21	72/04/03
31616	FEC COLI	MPN-ECOR	/100ML	3	34.0000	1033.33	32.1455	1.00206	31.7480	100.000	.000000	72/01/25	72/01/30
70300	RESIDUE	DISS-180	C MG/L	1	60.0000					60.0000	60.0000	55/05/09	55/05/09
71205	COLIFORM	MPN PRES	/100ML	12	2790.83	.2135+08	4625.24	1.65779	1335.19	16000.0	.000000	55/05/09	72/03/23
72019	TOP DPTH	OF SMPLE	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

Table 13
(Continued)

STORET DATE 73/03/16

ST-004

SANTEE RVR 6 MI BELOW PL OUTFALL
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
215040 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	NSAMPLOC	A FROM	PT MARK	5	27.0000	237.500	14.4049	.533513	6.44205	50.0000	10.0000	72/03/21	73/01/30
00010	WATER	TEMP	CENT	19	21.3421	40.2797	7.61495	.328925	1.61849	32.0000	8.00000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	9	24.0000	.000000	.000000		.000000	25.0000	23.0000	63/05/20	63/05/24
00075	TURB	HACH	PPM SIO2	6	7.66667	9.36670	3.15781	.411784	1.28884	13.0000	2.50000	72/03/21	73/01/30
00080	COLOR	PT-CO	UNITS	11	59.4545	417.274	20.4277	.343584	6.16016	90.0000	25.0000	63/05/20	73/01/30
00300	DO		MG/L	18	8.08556	2.48117	1.57521	.194838	.369772	12.2000	6.40000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	16	93.5000	47.6000	6.89927	.073789	1.72482	100.000	81.0000	55/05/09	72/07/25
00310	BOD	5 DAY	MG/L	18	3.16667	5.68397	2.38496	.720954	.562255	10.7+00	1.20000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	1	62.2000					62.2000	62.2000	72/12/19	72/12/19
00400	PH		SU	2	6.90000	.010000	.141382	.020490	.099973	7.00000	6.80000	72/12/19	73/01/30
00403	LAB	PH	SU	17	7.12588	.236023	.485768	.068307	.117834	7.80000	6.35000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	17	43.7647	19.8971	4.46059	.101924	1.08189	54.0000	26.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	6	.183333	.002727	.052187	.284602	.019264	.260000	.100000	72/03/21	73/01/30
00668	ORTHOPO4	PO4	MG/L	6	1.93833	12.1389	3.48484	2.42228	1.42230	8.50000	.000000	72/03/21	73/01/30
01042	COPPER	CU,TOT	UG/L	1	17.0000					17.0000	17.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	1	3.00000					3.00000	3.00000	73/01/30	73/01/30
31615	FEC COLI	MEMBRNFLO	/100ML	3	.000000	.000000	.000000		.000000	.000000	.000000	72/03/21	72/03/21
31616	FEC COLI	MEMBRNFLW	/100ML	3	16.6667	233.334	15.2753	.916517	8.81918	30.0000	.000000	72/03/21	73/01/30
50330	RESIDUE	DISS-105	C MG/L	1	61.0000					61.0000	61.0000	55/05/09	55/05/09
51005	COLIFORM	MPN PERS	/100ML	11	4150.00	.3636+08	6196.06	1.49303	1868.18	16000.0	.000000	55/05/09	72/03/23
72015	TOT DPTH	OF SMPLR	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

STATION INVENTORY FOR PERIOD OF RECORD

STORET DATE 73/03/16

SI-004

SANTEE RVR 4 MI BELOW PL OUTFALL
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
21SC0040 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	MSAMPLOC	% FROM	RT BANK	5	27.0000	297.500	14.4049	.533513	6.44205	50.0000	10.0000	72/03/21	73/01/30
00010	WATER	TEMP	CENT	19	21.3421	49.2797	7.01995	.328925	1.61049	32.0000	8.00000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	5	25.0000	.000000	.000000		.000000	25.0000	25.0000	63/05/20	63/05/24
00075	TURB	HLGE	PPM SIO2	6	7.66667	9.46670	3.19701	.411784	1.26884	10.0000	2.50000	72/03/21	73/01/30
00080	COLOR	PT-CO	UNITS	11	65.4545	417.274	20.4273	.312084	6.15906	90.0000	25.0000	63/05/20	73/01/30
00300	DO		MG/L	18	8.69444	2.46117	1.56881	.180438	.369772	12.2500	6.00000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	16	93.5000	47.6000	6.89927	.073789	1.72482	100.000	81.0000	55/05/09	72/07/25
00310	BOD	5 DAY	MG/L	18	3.10277	5.00337	2.23696	.720956	.527295	10.7500	1.20000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	1	62.2000					62.2000	62.2000	72/12/19	72/12/19
00400	PH		SU	2	6.90000	.019989	.141382	.020490	.099973	7.00000	6.80000	72/12/19	73/01/30
00403	LAB	PH	SU	17	7.12588	.236923	.486748	.068307	.118054	7.50000	6.30000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	17	33.7647	19.0671	4.36659	.129324	1.05905	39.0000	24.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	6	.163333	.002227	.047187	.288902	.019264	.240000	.100000	72/03/21	73/01/30
00660	ORTHOPO4	PO4	MG/L	6	1.43833	12.1386	3.48405	2.42228	1.42236	8.55000	.000000	72/03/21	73/01/30
01042	COPPER	CU,TOT	UG/L	1	17.0000					17.0000	17.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	1	3.00000					3.00000	3.00000	73/01/30	73/01/30
31615	FEC COLI	MPNECMED	/100ML	3	.000000	.000000	.000000		.000000	.000000	.000000	72/03/21	72/03/23
31616	FEC COLI	MEM-FCBR	/100ML	3	16.6667	233.334	15.2753	.916517	8.81918	30.0000	.000000	72/07/25	73/01/30
70300	RESIDUE	DISS-180	C MG/L	1	61.5000					61.5000	61.5000	55/05/09	55/05/09
71205	COLIFORM	MPN PRES	/100ML	11	4150.00	.363E+08	6194.06	1.49303	1868.18	16000.0	.000000	55/05/09	72/03/23
72015	TOM DPTH	OF SMPLE	FT	2	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

Table 14
(Continued)

STORET DATE 73/03/16

ST-014

BRDG OVER SANTEE RVR ON US 52
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
21SC052Q 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	17	24.6706	11.8734	3.44563	.139640	.835736	30.0000	16.5000	62/05/23	72/11/15
00070	TURB	JKSN	JTU	4	68.7500	56.2500	7.50000	.265870	3.75000	40.0000	25.0000	63/06/18	72/04/19
00075	TURB	HLGE	PPM SIO2	17	12.4000	33.7000	5.80517	.468159	1.40796	22.0000	3.00000	69/08/29	72/09/18
00080	COLOR	PT-CO	UNITS	21	58.3333	1785.83	42.2591	.724442	9.22170	210.000	20.0000	63/06/18	72/09/18
00095	CNDUCTVY	AT 25C	MICROMHO	4	64.7500	14.2500	3.77492	.044542	1.88746	68.0000	62.0000	72/08/30	72/11/15
00300	DO		MG/L	18	7.38333	1.60912	1.26807	.171696	.403801	10.2000	5.00000	62/05/23	72/11/15
00301	DO	SATUR	PERCENT	12	88.6250	157.886	10.3866	.122162	2.99862	98.0000	68.0000	62/05/23	72/09/18
00310	BOD	5 DAY	MG/L	10	1.84000	1.38716	1.17777	.715431	.415030	5.60000	.100000	62/05/23	72/09/18
00400	PH		SU	4	7.07500	.015479	.124813	.017811	.043067	7.20000	6.90000	72/08/30	72/11/15
00403	LAB	PH	SU	20	6.55000	.1n6491	.408033	.062200	.091234	7.30000	5.80000	62/05/23	72/09/18
00410	T ALK	CACO3	MG/L	20	30.6500	456.450	21.2238	.692457	4.74579	110.000	16.0000	62/05/23	72/09/18
00610	NO2&NO3	N-TOTAL	MG/L	3	.120000	.000700	.026458	.220480	.015275	.130000	.100000	72/05/18	72/09/18
00660	ORTHOPO4	PO4	MG/L	3	.043333	.000533	.023076	.532515	.013322	.060000	.030000	72/05/18	72/09/18
31615	FEC COLI	MPNECHED	/100ML	3	93.3333	633.333	25.1661	1.07059	14.5297	50.0000	.000000	72/06/29	72/09/18
31616	FEC COLI	MEMFECHM	/100ML	5	110.000	3453.0	185.104	1.68573	83.2204	440.000	.000000	72/07/26	72/11/15
71205	COLIFORM	MPN PRES	/100ML	5	609.000	520350	721.353	1.66081	322.599	1720.00	20.0000	62/05/23	63/10/08

STATION INVENTORY FOR PERIOD OF RECORD

STORET DATE 73/03/16

ST-016

BRDG OVER SANTEE RVR ON US 52
45 SOUTH CAROLINA
SOUTHEAST
SANTEE COOPER SANTEE
215C00K0 02111204

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	17	24.6765	11.8738	3.44587	.139649	.835738	30.0000	16.5000	62/05/23	72/11/15
00070	TURB	JKSN	JTU	4	28.7500	59.2500	7.50500	.260870	3.75000	40.0000	25.0000	63/06/18	72/06/19
00075	TURB	NLGE	PPM SIO2	17	12.4000	33.7000	5.80517	.468159	1.40796	22.0000	3.00000	69/08/29	72/09/18
00080	COLOR	PT-CO	UNITS	21	58.3333	1785.83	42.2591	.724442	9.22170	210.000	20.0000	63/06/18	72/09/18
00095	CNDUCTVY	AT 25C	MICROMHO	4	84.7500	14.2500	3.77492	.044542	1.88746	90.0000	82.0000	72/08/30	72/11/15
00300	DO		MG/L	18	7.38333	1.65912	1.28807	.174456	.303601	10.2000	5.00000	62/05/23	72/11/15
00301	DO	SATUR	PERCENT	12	85.6250	107.666	10.3868	.122162	2.99842	98.0000	66.3000	62/05/23	72/09/18
00310	BOD	5 DAY	MG/L	30	1.84409	1.30714	1.14777	.715971	.215038	5.60000	.100000	62/05/23	72/09/18
00400	PH		SU	4	7.07500	.015879	.126013	.017811	.063007	7.20000	6.90000	72/08/30	72/11/15
00403	LAB	PH	SU	20	6.55499	.166491	.408033	.062208	.091239	7.30000	5.80000	62/05/23	72/09/18
00410	T ALK	CACO3	MG/L	20	38.6000	456.463	21.2238	.692457	4.74579	118.000	18.0000	62/05/23	72/09/18
00630	NO2&NO3	N-TOTAL	MG/L	3	.120000	.000700	.026458	.220480	.015275	.150000	.100000	72/05/18	72/09/18
00660	ORTHOPO4	PO4	MG/L	3	.081333	.005833	.076376	.938515	.044096	.150000	.000000	72/05/18	72/09/18
31615	FEC COLI	MPNECMED	/100ML	3	23.3333	633.334	25.1661	1.07855	14.5297	50.0000	.000000	70/06/29	72/05/15
31616	FEC COLI	MFM-FCHR	/100ML	5	110.400	34634.8	186.104	1.68573	83.2284	400.000	.000000	72/07/26	72/11/15
71205	COLIFORM	MPN PRES	/100ML	5	560.000	520350	721.353	1.06081	322.599	1720.00	20.0000	62/05/23	63/10/08

Table 15
(Continued)

STORET DATE 73/03/16

AGENCY 21SC60WQ

	STA BEG	STA END	# OF OBS	# OF SAMPLE	STA END-PERIOD OF RECD IN YRS =0	<.5	<3	>=3
1952	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	4	0	108	15	0	0	0	0
1956	0	0	115	20	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0
1962	1	0	14	2	0	0	0	0
1963	0	0	184	22	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	16	2	0	0	0	0
1970	0	0	16	3	0	0	0	0
1971	0	0	54	13	0	0	0	0
1972	0	5	410	44	0	0	0	5

Table 16

PERIOD OF RECORD FOR STATIONS
St-001, St-002, St-003, St-004, AND St-016

Table 16
(Continued)

STONEY DATE 73/03/16 AGENCY 21SC40WD

	STA REG	STA END	# OF OBS	# OF SAMPLE	STA END-PERIOD OF REC IN YRS			
					≤0	≤5	≤3	>3
1952	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	0	0	104	17	0	0	0	0
1956	0	0	114	20	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0
1962	0	0	141	22	0	0	0	0
1963	0	0	145	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	116	17	0	0	0	0
1971	0	0	54	13	0	0	0	0
1972	0	5	416	46	0	0	0	5

STORET DATE 73/03/16

AGENCY 21SC60WQ

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	HSAMPLOC	B FROM	RT BANK	14	27.8571	252.748	15.8981	.570700	4.24893	50.0000	10.0000	72/03/21	73/01/30
00010	WATER	TEMP	CENT	100	21.7400	41.8463	6.46887	.297556	.646887	32.0000	1.50000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	24	25.0833	17.1236	4.13807	.164973	.844680	40.0000	12.0000	63/05/20	72/04/19
00075	TURB	HLGE	PPM SIO2	45	9.71777	25.7493	5.07437	.522175	.756443	22.5000	2.00000	69/08/29	73/01/30
00080	COLOR	PT-CO	UNITS	69	65.9420	917.855	30.2961	.459436	3.64722	210.000	20.0000	63/05/20	73/01/30
00095	CNDUCTVY	AT 25C	MICROMHO	4	84.7500	14.2500	3.77492	.044542	1.88746	90.0000	82.0000	72/08/30	72/11/15
00300	DO		MG/L	97	8.32422	2.46029	1.57137	.188771	.159548	12.3000	5.00000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	83	91.2028	84.3049	8.01903	.087926	.880203	100.000	66.3000	55/05/09	72/09/18
00310	BOD	5 DAY	MG/L	109	2.63027	3.79329	1.94764	.740471	.186550	10.7500	.100000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	4	68.5000	55.7692	7.46781	.109740	3.73391	77.0000	62.2000	72/12/19	72/12/19
00400	PH		SU	12	6.93333	.020597	.143515	.020699	.041429	7.20000	6.80000	72/08/30	73/01/30
00403	LAB	PH	SU	96	6.93802	.314474	.560779	.080853	.057234	8.00000	5.50000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	96	31.5000	119.726	10.9420	.347364	1.11679	110.000	10.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	27	1.46592	45.5088	6.74602	4.66554	1.29827	35.2000	.000000	72/03/21	73/01/30
00660	ORTHO-P4	PO4	MG/L	27	.382222	2.68134	1.63748	4.52066	.315133	8.50000	.000000	72/03/21	73/01/30
00940	CHLORIDE	CL	MG/L	1	26.0000					26.0000	26.0000	73/01/30	73/01/30
01042	COPPER	LU.TOT	UG/L	4	23.0000	58.6667	7.65942	.333018	3.82971	33.0000	17.0000	73/01/30	73/01/30
01351	STREAM	FLOW	SEVERITY	4	3.00000	.000000	.000000		.000000	3.00000	3.00000	73/01/30	73/01/30
31501	TOT COLI	MF;MENDO	/100ML	3	233.333	23333.4	152.753	.654654	88.1916	400.000	100.000	72/04/03	72/04/03
31615	FEC COLI	MPNECMED	/100ML	20	14.5000	847.105	29.1051	2.00726	6.50809	100.000	.000000	70/06/29	72/05/18
31616	FEC COLI	MFM-FCBR	/100ML	17	51.7647	11115.4	105.425	2.03602	25.5693	400.000	.000000	72/07/25	73/01/30
70300	RESIDUE	DISS-180	C MG/L	3	61.1000	.931541	.965215	.015797	.557267	61.8000	60.0000	55/05/09	55/05/09
71205	COLIFORM	MPN PRES	/100ML	51	3311.53	.209E+08	5382.90	1.62550	753.757	16000.0	.000000	55/05/09	72/03/23
72015	TOP DPTH	OF SMPLE	FT	8	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

Table 17

INVENTORY OF STATIONS
St-001, St-002, St-003, St-004, and St-016

STORET DATE 73/03/16

AGENCY 21SC69WQ

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	MSAMPLOC	A FROM	RT BANK	14	27.8571	252.748	15.8981	.570700	4.24893	50.0000	10.0000	72/03/21	73/01/30
00010	WATER	TEMP	CENT	100	21.7400	41.8663	6.46997	.297556	.646887	32.0000	7.50000	55/05/09	73/01/30
00070	TURB	JKSN	JTU	24	25.0833	17.1236	4.13807	.164973	.844680	40.0000	12.0000	62/05/20	72/04/19
00075	TURB	HLGE	PPM SIO2	45	4.71777	25.7493	5.07437	.522175	.756443	22.5000	2.00000	69/08/29	73/01/30
00080	COLOR	PT-CO	UNITS	69	65.9420	917.855	30.2961	.459436	3.64722	210.000	20.0000	63/05/20	73/01/30
00095	CNDUCTVY	AT 25C	MICROMHO	4	84.7500	14.2500	3.77492	.044542	1.88746	90.0000	82.0000	72/08/30	72/11/15
00300	DO		MG/L	97	8.32422	2.48428	1.57137	.188771	.159548	12.8000	5.00000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	83	91.2684	54.3549	8.61983	.087926	.865283	108.000	66.3000	55/05/09	72/04/18
00310	BOD	5 DAY	MG/L	109	2.65027	3.79329	1.94784	.740471	.186552	12.7400	.100000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	4	68.8500	53.7682	7.86741	.109740	3.73391	77.9000	62.2500	72/12/19	72/12/19
00400	PH		SU	12	6.93333	.020597	.143515	.020699	.041429	7.20000	6.80000	72/08/30	73/01/30
00403	LAB	PH	SU	96	6.95302	.314474	.560779	.080853	.057234	8.80000	5.50000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	96	31.5938	119.726	10.9426	.347364	1.11676	118.000	10.0000	55/05/09	73/01/30
00630	NO2&NO3	N-TOTAL	MG/L	27	1.46592	45.5000	6.74607	4.60554	1.29827	35.2000	.660000	72/03/21	73/01/30
00665	PHOS-TOT	PO4	MG/L	27	.362222	2.08134	1.44248	4.52066	.315133	8.33000	.050000	72/03/21	73/01/30
00940	CHLORIDE	CL	MG/L	1	28.0000					28.0000	28.0000	73/01/30	73/01/30
01042	COPPER	CU-TOT	UG/L	6	23.1000	94.6667	9.55662	.413818	3.90171	33.0000	12.0000	73/01/30	73/01/30
01351	STRGTH	FLOW	SEVERITY	4	1.00000	.000000	.000000		.000000	1.00000	1.00000	73/01/30	73/01/30
31501	FEC COLI	MEMBRN	/100ML	3	233.333	23333.4	152.753	.654654	88.1918	400.000	100.000	72/04/03	72/04/03
31616	FEC COLI	MEMBRN	/100ML	20	14.5000	847.105	29.1051	2.00725	6.50859	100.000	.000000	70/06/29	72/05/18
31625	FEC COLI	MEM-FCBR	/100ML	17	51.7647	11114.4	105.425	2.03662	25.5623	400.000	.000000	72/03/25	73/01/30
70300	RESIDUE	DISS-180	C MG/L	3	61.1000	.493641	.702615	.615747	.557267	61.8000	60.6000	55/05/09	55/05/09
71285	COLIFORM	MPN-MILS	/100ML	51	3311.53	.499E+08	5332.90	1.62550	793.757	16000.0	.000000	55/05/09	72/03/23
72015	TOP DEPTH	OF SAMPLE	FT	8	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30

Table 17
(continued)

SIGNET DATE 73/03/16

GROSS

PARAMETER			NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002 HSAMPLOC	% FROM	RT BANK	14	27.9571	252.748	15.8981	.570700	4.24893	50.0000	10.0000	72/03/21	73/01/30
00010 WATER	TEMP	CENT	251	14.5686	50.9182	7.13662	.489733	.476199	32.5000	0.000000	55/05/09	73/01/30
00060 STREAM	FLOW	CFS	106	1173.61	1.10E+06	3344.65	3.19179	298.641	31000.0	248.000	56/01/20	72/07/26
00061 STREAM	FLOW,	INST-CFS	5	520.400	686.800	26.1916	.050330	11.7132	593.000	450.000	72/07/26	72/12/13
00070 TURB	JKSN	JTU	29	22.2414	60.8327	7.79953	.350677	1.44838	46.0000	1.00000	63/05/20	72/04/19
00076 TURB	HACH	PPM SIO2	46	9.71777	25.7493	5.07437	.522175	.756443	22.0000	2.00000	69/06/29	73/01/30
00080 COLOR	PT-CO	UNITS	139	46.8345	1202.42	34.6764	.877317	3.01852	210.000	.000000	63/06/20	73/01/30
00095 CNDUCTVY	AT 25C	MICROMHO	126	88.3492	371.220	19.2671	.217955	1.71623	276.000	62.0000	66/01/20	72/12/13
00094 DO		MG/L	158	8.85552	2.03938	1.42776	.161241	.135629	14.3000	5.00000	55/05/09	72/12/19
00301 DO	SATUR	PERCENT	83	91.7224	58.4049	8.61954	.093975	.900203	105.000	69.0000	55/05/09	72/09/18
00310 BOD	5 DAY	MG/L	117	2.54402	3.65971	1.91241	.751810	.176848	10.7000	.100000	55/05/09	73/01/30
00340 COD	HI LEVEL	MG/L	4	58.0000	55.7692	7.46781	.128754	3.73391	77.0000	52.0000	72/12/19	72/12/19
00400 PH		SU	131	7.24580	27.0570	5.27797	.727733	.461139	67.0000	6.00000	66/01/20	73/01/30
00403 LAB	PH	SU	95	6.91082	.314474	.560779	.080853	.057534	8.00000	5.00000	55/05/09	73/01/30
00410 T ALK	CACO3	MG/L	163	28.5184	91.7696	9.58074	.341197	.748781	118.000	10.0000	55/05/09	73/01/30
00440 HCO3 ION	HCO3	MG/L	67	28.1045	11.4090	3.37774	.130682	.468697	34.0000	17.0000	66/01/20	71/05/06
00445 CO3 ION	CO3	MG/L	66	.000000	.000000	.000000		.000000	.000000	.000000	66/01/20	71/05/06
00515 RESIDUE	DRY-105	C MG/L	39	56.0769	37.2319	6.10179	.108884	.977189	69.0000	33.0000	66/01/03	71/09/30
00530 RESIDUE	TOT NFLT	MG/L	41	9.04878	33.2979	5.77841	.637700	.981186	26.0000	2.00000	66/01/03	71/09/30
00618 NO2-N	DISS	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	71/08/26	71/09/09
00619 NO3-N	N-TOTAL	MG/L	27	1.44592	45.5008	6.74602	4.66554	1.29827	35.2000	.000000	72/03/21	73/01/30
00650 T PO4	PO4	MG/L	34	.084231	.009347	.096697	1.14793	.016583	.400000	.000000	66/01/20	69/12/23
00665 ORTHO-PA	PO4	MG/L	56	.196545	1.32250	1.15044	5.85361	.153725	8.45000	.000000	67/10/23	73/01/30
00665 PHOS-T	P-TOT	MG/L	19	.947316	.663758	.814709	1.16723	.218653	.300000	.000000	69/10/08	71/06/09
00900 TOT HARD	CACO3	MG/L	63	14.8619	2.82745	1.74010	.092257	.219833	24.6000	10.0000	66/01/20	71/05/06
00902 NC HARD	CACO3	MG/L	67	.358701	.238088	.488578	8.18535	.059701	4.60000	.000000	66/01/20	71/05/06
00915 CALCIUM	CA-DISS	MG/L	55	5.01321	.324845	.574365	.114556	.071241	6.70000	4.00000	66/01/20	71/05/06
00925 MAGNSIUM	MG-DISS	MG/L	65	1.58676	.072653	.269432	.174064	.033681	2.40000	1.00000	66/01/20	71/05/06
00930 SODIUM	NA-DISS	MG/L	63	4.26304	3.04272	1.74434	.168312	.216359	13.0000	3.00000	66/01/20	71/05/06
00931 SODIUM	ADSHTION	RATIO	65	.926149	.030068	.184219	.177314	.020369	1.30000	.750000	66/01/20	71/05/06
00932 PERCENT	SODIUM	%	65	48.4481	16.9787	4.11955	.085034	.510967	58.0000	41.0000	66/01/20	71/05/06
00935 POTASSIUM	K-DISS	MG/L	65	1.57538	.193144	.321156	.131696	.039835	2.50000	1.10000	66/01/20	71/05/06
00940 CHLORIDE	CL	MG/L	68	6.26731	13.5763	3.68468	.446941	.446823	20.0000	3.00000	66/01/20	73/01/30
00945 SULFATE	SO4	MG/L	67	7.22641	3.47814	1.86498	.258063	.227842	13.0000	4.00000	66/01/20	71/05/06
00950 FLUORIDE	F-DISS	MG/L	67	.147761	.003745	.061196	.414154	.007476	.300000	.000000	66/01/20	71/05/06
00955 SILICA	DISOLVED	MG/L	65	7.28149	4.32883	2.07447	.285446	.257802	11.0000	1.00000	66/01/20	71/05/06
01030 CHROMIUM	CR-DISS	UG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/08	70/10/21
01040 COPPER	CU-DISS	UG/L	7	13.5714	172.593	13.1259	.966956	4.96262	30.0000	.020000	66/04/27	70/10/21
01042 COPPER	CU-TOT	UG/L	4	23.0000	59.6667	7.65942	.333018	3.82971	33.0000	17.0000	73/01/30	73/01/30

Table 18

INVENTORY OF STATIONS

St-001, St-002, St-003, St-004, St-016, PINEVILLE, AND ST. STEPHENS

STORET DATE 73/03/16

GROSS

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00002	HSAMPLOC	% FROM	PT BANK	14	27.8571	252.748	15.8981	.570700	4.24893	50.0000	10.0000	72/03/21	73/01/30
00010	WATER	TEMP	CENT	251	19.5586	56.9102	7.54442	.385733	.476199	32.0000	4.00000	55/05/09	73/01/30
00060	STREAM	FLOW	CFS	166	1173.21	.140E+08	3744.65	3.19179	290.641	31000.0	248.000	66/01/20	72/07/26
00061	STREAM	FLOW,	INST-CFS	5	520.400	686.000	26.1916	.050330	11.7132	553.000	490.000	72/07/26	72/12/13
00070	TURB	JACK	JTU	29	22.2414	60.8327	7.79953	.350677	1.44834	40.0000	1.00000	63/05/20	72/04/19
00076	TURB	HACH	PPM SIO2	45	9.71777	25.7603	5.07437	.522175	.756443	22.5000	2.00000	69/08/29	73/01/30
00080	COLOR	PT-CO	UNITS	139	40.8345	1283.42	35.8248	.877317	3.03862	210.000	.000000	63/05/20	73/01/30
00095	CNDUCTVY	AT 25C	MICROMHO	124	88.3982	371.220	19.2671	.217955	1.73023	270.000	63.0000	66/01/20	72/12/13
00300	DO		MG/L	156	8.58499	2.84938	1.68776	.196561	.135029	14.3000	5.00000	55/05/09	72/12/19
00301	DO	SATUR	PERCENT	83	93.2828	66.3849	8.61903	.092406	.946293	108.000	66.7000	55/05/09	72/09/10
00310	BOD	5 DAY	MG/L	117	2.54102	3.65921	1.91291	.752810	.176848	10.7500	.100000	55/05/09	73/01/30
00340	COD	HI LEVEL	MG/L	4	69.0500	55.7682	7.46781	.108140	3.73391	77.8000	62.2000	72/12/19	72/12/19
00400	PH		SU	131	7.25203	27.4570	5.23737	.722733	.961139	87.0000	6.40000	66/01/20	73/01/30
00403	LAB	PH	SU	56	6.93502	.314474	.560779	.080853	.057234	8.00000	5.50000	55/05/09	73/01/30
00410	T ALK	CACO3	MG/L	183	29.9184	91.3898	9.55979	.341197	.748781	118.000	10.0000	55/05/09	73/01/30
00440	HCO3 ION	HCO3	MG/L	67	28.1345	13.4890	3.67274	.130602	.448657	36.0000	17.0000	66/01/20	71/05/06
00445	CO3 ION	CO3	MG/L	65	.000000	.000000	.000000		.000000	.000000	.000000	66/01/20	71/05/06
00515	RESIDUE	DISS-105	C MG/L	39	58.0769	37.2319	6.10179	.105064	.977069	69.0000	33.0000	68/01/03	71/09/30
00530	RESIDUE	TOT NFLT	MG/L	41	9.04878	33.2975	5.77041	.637700	.901186	26.0000	2.00000	68/01/03	71/09/30
00618	NO3-N	DISS	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	71/06/28	71/09/09
00630	NO2&NO3	N-TOTAL	MG/L	27	1.44592	45.5068	6.74602	4.66554	1.29827	35.2000	.000000	72/03/21	73/01/30
00650	T PO4	PO4	MG/L	34	.009231	.000397	.019919	2.15789	.003150	.080000	.000000	66/01/20	69/12/23
00660	ORTHOPO4	PO4	MG/L	55	.180545	1.32350	1.15044	6.37201	.155125	6.50000	.000000	67/10/23	73/01/30
00665	PHOS-T	P-NET	MG/L	17	.046316	.005269	.072598	1.56723	.016653	.300000	.000000	69/10/28	71/06/09
00900	TOT HARD	CACO3	MG/L	65	18.8615	3.02795	1.74010	.092257	.215833	26.0000	10.0000	66/01/20	71/05/06
00902	NC HARD	CACO3	MG/L	67	.059701	.238806	.488678	8.18535	.059701	4.00000	.000000	66/01/20	71/05/06
00915	CALCIUM	CA-DISS	MG/L	65	5.01381	.320895	.566365	.114556	.071241	6.30000	4.00000	66/01/20	71/05/06
00925	MAGNESIUM	MG-DISS	MG/L	65	1.55079	.072053	.268432	.174064	.033481	2.40000	1.00000	66/01/20	71/05/06
00930	SODIUM	NA-DISS	MG/L	65	4.26308	3.04272	1.74434	.188312	.216359	13.0000	5.90000	66/01/20	71/05/06
00931	SODIUM	ADSHTION	RATIO	65	.920149	.026968	.164219	.177314	.020369	1.30000	.700000	66/01/20	71/05/06
00932	PERCENT	SODIUM	%	65	44.4461	16.9707	4.11955	.085034	.510967	58.0000	41.0000	66/01/20	71/05/06
00935	POTSSIUM	K-DISS	MG/L	65	1.67538	.103146	.321164	.191696	.039835	2.50000	1.10000	66/01/20	71/05/06
00940	CHLORIDE	CL	MG/L	68	8.20711	13.5763	3.68460	.448941	.446823	28.0000	3.60000	66/01/20	73/01/30
00945	SULFATE	SO4	MG/L	67	7.22681	3.47814	1.86498	.258063	.227843	13.0000	4.00000	66/01/20	71/05/06
00950	FLURIDE	F-DISS	MG/L	67	.147761	.003745	.061196	.414154	.007476	.300000	.000000	66/01/20	71/05/06
00955	SILICA	DISOLVED	MG/L	65	7.28149	4.32003	2.07847	.285446	.257802	11.0000	1.60000	66/01/20	71/05/06
01030	CHROMIUM	CR-DISS	UG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	69/10/28	70/10/21
01040	COPPER	CU-DISS	UG/L	7	13.5700	172.393	13.1299	.966954	4.96262	30.0000	.020000	66/04/27	70/10/21
01042	COPPER	CU-TOT	UG/L	4	23.0000	58.6667	7.65942	.333018	3.82971	33.0000	17.0000	73/01/30	73/01/30

Table 18
(Continued)

STORET DATE 73/03/16

GROSS

Table 15
(Continued)

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01105	IRON	TOTAL	UG/L	1	143.000					143.000	143.000	69/10/28	69/10/28
01046	IRON	FE,DISS	UG/L	50	7.14257	209.781	14.4838	2.02782	2.04832	70.0000	.000000	66/01/20	71/05/06
01049	LEAD	PB,DISS	UG/L	15	1.73329	21.5995	4.64752	3.67229	1.19959	18.0000	.000000	66/04/27	71/08/09
01055	MANGANESE	MN	UG/L	4	5.80125	57.1286	7.55834	1.51129	2.67228	20.0000	.000000	66/04/27	69/10/28
01056	MANGANESE	MN,DISS	UG/L	7	7.14429	357.119	18.8976	2.64513	7.14262	50.0000	.000000	66/06/17	70/10/21
01060	NICKEL	NI,DISS	UG/L	7	1.14114	9.14269	3.02359	2.64498	1.14261	8.00000	.000000	66/04/27	70/10/21
01080	STRONTUM	SR,DISS	UG/L	5	66.5440	3622.75	60.1643	.911351	26.9174	130.000	.100000	66/04/27	66/06/27
01090	ZINC	ZN,DISS	UG/L	5	6.05400	74.9681	8.64982	1.42816	3.86458	20.0000	.000000	66/04/27	66/06/27
01105	ALUMINUM	AL,TOT	UG/L	5	80.0599	6668.52	81.6946	1.02015	37.3845	200.000	.100000	66/04/27	66/06/27
01106	ALUMINUM	AL,DISS	UG/L	3	100.000	10000.0	100.000	1.00000	57.7350	200.000	.000000	66/04/26	69/06/17
01130	LITHIUM	LI,DISS	UG/L	2	.052000	.1804-10	.000003	.001581	.035002	.052000	.052000	66/04/27	66/05/27
01351	STREAM	FLOW	SEVERITY	4	3.00000	.000000	.000000		.000000	3.00000	3.00000	73/01/30	73/01/30
01903	ALPHA	DISOLVED	PCI/L	2	.150000	.090000	.070711	.471404	.050000	.200000	.100000	69/10/28	70/10/21
01905	ALPHA	SUSP	PCI/L	2	.150000-.3720-08	.000000			.000000	.150000	.150000	69/10/28	70/10/21
01515	ALPHA-D	AS U-NAT	PCI/L	39	.238451	.010050	.100144	.436817	.016040	.600000	.100000	66/01/03	71/09/30
01516	ALPHA-S	AS U-NAT	PCI/L	39	.207692	.021201	.145565	.719595	.023632	.700000	.100000	66/01/03	71/09/30
01901	BETA	DISOLVED	PCI/L	2	9.30000	82.8050	7.91961	.862512	9.00001	15.0000	3.00000	69/10/28	70/10/21
01906	BETA	SUSP	PCI/L	2	.450000	.050000	.070711	.157135	.050000	.500000	.400000	69/10/28	70/10/21
01517	BETA-D	AS CS137	PCI/L	39	4.11605	.022549	.150149	.152932	.100391	6.00000	1.90000	66/01/03	71/09/30
01518	BETA-S	AS CS137	PCI/L	39	1.84471	.991151	.979316	.529249	.156375	6.10000	.800000	66/01/03	71/09/30
09901	RA-226	DISOLVED	PCI/L	1	.040000					.040000	.040000	72/08/04	72/08/04
09910	RA-226-D	PLGHT CT	PCI/L	10	.100000	.000000	.000000		.000000	.100000	.100000	66/01/03	66/10/15
09911	RA-226-D	RADON MT	PCI/L	29	.041724	.005817	.076342	.320724	.002465	.070000	.020000	66/09/17	71/09/30
22703	U-NAT	DISOLVED	UG/L	9	.366666	.010000	.100001	.272729	.033334	.470000	.100000	66/01/03	66/09/17
31501	TOT COLI	MEMBRANE	/100ML	14	298.571	45546.3	213.409	1.05102	56.8767	867.000	50.0000	69/09/04	72/04/03
31615	FEC COLI	MEMBRANE	/100ML	28	14.9280	847.195	29.1061	2.00729	5.50009	132.000	.000000	70/06/29	72/05/18
31616	FEC COLI	MEMBRANE	/100ML	25	109.448	107498	327.719	2.99468	65.5432	1625.00	.000000	71/06/28	73/01/30
32730	PHENOLS		UG/L	20	1488.0	.2222+84	15073.1	1.03241	3375.46	70668.0	5000.00	66/01/20	67/04/27
32730	PHENOLS		MG/L	9	.052500	.001002	.041132	.783427	.020565	.100000	.010000	66/03/25	71/02/17
70150	RESIDUE	DISS-180	C MG/L	70	54.6757	40.3005	6.34822	.108462	.784317	73.0000	40.0000	66/05/09	71/09/06
70301	DISS SOL	SUM	MG/L	28	54.7143	34.8055	5.90302	.107826	1.11492	65.0000	41.0000	67/10/23	71/05/06
70302	DISS SOL	TONS/DAY		65	105.244	32327.3	179.796	1.70859	22.3047	1488.86	42.5500	66/01/20	71/05/06
70303	DISS SOL	TONS PER	ACRE-FT	67	.000091	.000001	.000537	.119212	.000163	.100000	.000000	66/01/20	71/05/06
71285	SP.CONDUCTANCE	MHO/CM25	/100ML	51	3311.41	.2295+06	5307.49	1.62560	751.757	19000.0	500.000	69/05/04	72/03/23
71850	NITRATE	NO3	MG/L	86	.745581	.091464	.302404	.709709	.032609	1.50000	.050000	66/01/20	71/09/09
71863	MANGANESE	MN,ELMTL	UG/L	1	.000000					.000000	.000000	71/02/17	71/02/17
71865	IRON	FE	UG/L	21	24.7619	376.191	19.3956	.783286	4.23248	70.0000	.000000	66/01/20	67/04/27
72019	DEPTH	OF SAMPLE	FT	8	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30
80020	U-DISS.	FAT.FLD.	UG/L	31	.548387	.004561	.067534	1.12761	.012103	.980000	.010000	66/02/16	71/09/30
80030	ALPHA-D	AS U-NAT	UG/L	40	.782497	.094225	.315001	.440402	.049808	1.90000	.400000	66/01/03	71/09/30

STORET DATE 73/03/16

CROSS

Table 18
(Continued)

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01045	IRON	TOTAL	UG/L	1	183.000					183.000	183.000	69/10/28	69/10/28
01046	IRON	FE,DISS	UG/L	56	7.14257	209.781	14.4838	2.02782	2.04832	70.0000	.000000	66/01/20	71/09/06
01049	LEAD	PB,DISS	UG/L	15	1.73333	21.6095	4.64862	2.67229	1.19999	18.0000	.000000	66/04/27	71/09/29
01060	SODIUM	NA	MG/L	4	5.80125	57.1206	7.55634	1.30225	2.67228	20.0000	.000000	66/04/27	69/10/28
01065	MANGANESE	MN,DISS	UG/L	7	7.14423	352.119	18.8978	2.64513	7.14282	50.0000	.000000	66/09/27	70/10/21
01067	NICKEL	NI,DISS	UG/L	7	1.14314	9.14300	3.02399	2.64498	1.14241	8.00000	.000000	66/04/27	70/10/21
01080	STRONTIUM	SR,DISS	UG/L	5	66.5400	3622.75	60.1893	.911351	26.9174	110.000	.110000	66/04/27	66/09/27
01090	ZINC	ZN,DISS	UG/L	5	6.82000	70.4001	8.39402	1.23096	3.75456	20.0000	.000000	66/04/27	66/09/27
01104	ALUMINUM	AL,DIS	UG/L	5	83.0000	6446.52	80.3304	1.04419	37.1645	205.000	.100000	66/04/27	66/09/27
01105	ALUMINUM	AL,DISS	UG/L	3	149.667	12530.9	111.935	1.00000	64.6260	265.000	.000000	66/04/16	66/09/27
01130	LITHIUM	LI,DISS	UG/L	2	.450000	.810E-10	.900000	2.00000	.636602	.900000	.000000	66/04/27	66/09/27
01150	STRON	FLOW	SECURITY	4	3.00000	.000000	.000000		.000000	3.00000	3.00000	72/01/30	73/01/30
01501	ALPHA	DISSOLVED	PC/L	2	.150000	.045000	.378711	.471404	.090000	.200000	.100000	69/10/28	70/10/21
01502	ALPHA	SUSP	PC/L	2	.100000	.177E-34	.000000		.000000	.100000	.100000	69/01/03	71/09/30
01503	ALPHA-D	AS U-NAT	PC/L	39	.423461	.010868	.104264	.630817	.016690	.700000	.100000	69/01/03	71/09/30
01504	ALPHA-S	AS U-NAT	PC/L	34	.697941	.021781	.147585	.710599	.025432	.700000	.100000	69/10/28	70/10/21
01505	BETA	DISSOLVED	PC/L	2	9.35000	62.7002	7.91961	.862912	5.60001	15.0000	3.70000	69/10/28	70/10/21
01506	BETA	SUSP	PC/L	2	.950000	.005000	.070711	.157135	.050000	1.00000	.900000	69/10/28	70/10/21
01515	BETA-D	AS CS137	PC/L	39	4.11923	.393563	.627345	.152332	.100431	8.00000	1.40000	69/01/03	71/09/30
01516	BETA-S	AS CS137	PC/L	34	1.04471	.994014	.473313	.452944	.155375	5.10000	.800000	69/01/03	71/09/30
01563	RA-226	DISSOLVED	PC/L	1	.040000					.040000	.040000	70/08/04	70/08/04
01610	RA-226-D	PLCHT CT	PC/L	10	.100000	.000000	.000000		.000000	.100000	.100000	69/01/03	69/10/15
01611	RA-226-D	RADON MT	PC/L	29	.041724	.000179	.013382	.320724	.002485	.070000	.020000	69/09/17	71/09/30
01703	U-NAT	DISSOLVED	UG/L	9	.358889	.010000	.100001	.272729	.033334	.400000	.100000	69/01/03	69/09/17
31501	TOT COLI	MFIMENDO	/100ML	14	288.571	45286.3	212.806	1.06100	56.8747	867.000	50.0000	69/09/04	72/04/03
31615	FEC COLI	MPN,ECMED	/100ML	20	16.8500	647.155	29.1091	2.00725	6.50809	100.000	.000000	70/06/29	72/05/18
31616	FEC COLI	MFM-FCOM	/100ML	25	184.440	107398	327.716	2.90448	65.5432	1625.00	.000000	71/08/26	73/01/30
32730	PHENOLS		UG/L	20	14606.0	.227E-09	15073.1	1.03241	3370.66	70000.0	9000.00	66/01/20	67/09/27
38260	MBAS		MG/L	4	.052500	.001692	.041130	.783427	.020585	.100000	.000000	66/03/25	71/02/17
70300	RESIDUE	DISS-180	C MG/L	70	54.6757	40.8809	6.39272	.188942	.764017	73.0000	45.0000	5%/05/09	71/09/06
70301	DISS SOL	SUM	MG/L	28	54.7143	34.8055	5.89962	.107825	1.11492	65.0000	41.0000	67/10/23	71/05/06
70302	DISS SOL	TONS/DAY		65	165.269	32337.5	179.826	1.78858	22.3047	1480.00	42.0000	66/01/20	71/09/06
70303	DISS SOL	TONS PER	ACRE-FT	67	.000000	.000000	.000537	.119212	.000165	.100000	.000000	66/01/20	71/09/06
71005	COLIFORM	MPN PRES	/100ML	51	3311.51	.284E+08	5382.90	1.62550	753.757	16000.0	.000000	55/05/09	72/03/23
71050	NITRATE	NO3	MG/L	66	.427505	.091648	.302694	.705709	.032609	1.65000	.000000	66/01/20	71/09/09
71863	MANGNESE	MN,ELMTL	UG/L	1	.000000				.000000	.000000	.000000	71/02/17	71/02/17
71865	IRON	FE	UG/L	21	24.7619	376.191	19.3956	.783288	4.23248	70.0000	.000000	66/01/20	67/09/27
72015	TOP DPTH	OF SMPLE	FT	8	4.00000	.000000	.000000		.000000	4.00000	4.00000	72/12/19	73/01/30
80020	U-DISS.	EST.FLR.	UG/L	31	.648387	.084941	.367384	1.39261	.012103	.380000	.010000	69/02/26	71/09/30
80030	ALPHA-D	AS U-NAT	UG/L	40	.702497	.099225	.315001	.448402	.049806	1.90000	.490000	69/01/03	71/09/30

STORET DATE 73/03/16

GROSS

PARAMETER			NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
80040 ALPHA-S	AS U-NAT	UG/L	40	.639998	.156308	.395358	.617750	.062512	2.60000	.400000	68/01/03	71/09/30
80050 BETA-D	AS SR-Y-	90. PC/L	40	3.28409	.239796	.489683	.149067	.077426	4.80000	1.60000	68/01/03	71/09/30
80060 BETA-S	AS SR-Y-	90. PC/L	40	.914995	.650549	.806560	.881492	.127529	5.10000	.400000	68/01/03	71/09/30
80154 SUSP SED	CONC	MG/L	7	13.0571	92.8096	9.63377	.895221	3.64122	34.0000	6.00000	67/11/21	68/06/17
80155 SUSP SED	DISCHARG	TONS/DAY	7	24.7286	257.383	16.0431	.648770	6.06374	53.0000	9.10000	67/11/21	68/06/17

Table 18
(Continued)

STORET DATE 73/03/16

GROSS

PARAMETER			NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
80040 ALPHA-S	AS U-NAT	UG/L	40	.639998	.156308	.395358	.617750	.062512	2.00000	.400000	68/01/03	71/09/30
80050 BETA-D	AS SR-Y-	90. PC/L	40	3.28499	.239798	.489683	.149057	.077426	4.80000	1.60000	68/01/03	71/09/30
80060 BETA-S	AS SR-Y-	90. PC/L	40	.914995	.650540	.806560	.881402	.127528	5.10000	.400000	68/01/03	71/09/30
80154 SUSP SED	CONC	MG/L	7	13.8571	92.8096	9.63377	.695221	3.64122	34.0000	6.00000	67/11/21	68/06/17
80155 SUSP SED	DISCHARG	TONS/DAY	7	24.7266	257.303	16.0431	.648770	6.06374	53.0000	9.10000	67/11/21	68/06/17

Table 18
(Continued)

STORET DATE 73/03/16

GROSS

YR	STA BEG	STA END	# OF OBS	# OF SAMPLE	STA END-PERIOD OF RECD IN YRS =0	<.5	<3	>=3
<1952	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	4	0	108	15	0	0	0	0
1956	0	0	116	20	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0
1962	1	0	14	2	0	0	0	0
1963	0	0	198	22	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	1	0	647	24	0	0	0	0
1967	0	0	454	17	0	0	0	0
1968	0	0	494	24	0	0	0	0
1969	1	0	497	33	0	0	0	0
1970	0	0	351	44	0	0	0	0
1971	0	0	384	53	0	0	0	0
1972	0	7	451	57	0	0	0	7

Table 19

PERIOD OF RECORD FOR STATIONS
St-001, St-002, St-003, St-004, St-016, PINEVILLE AND ST. STEPHENS

STORET DATE 73/03/16

64055

	STA BEG	STA END	# OF OBS	# OF SAMPLE	STA END-PERIOD OF RECD IN YRS =0	<.5	<3	>=3
<1952	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0
1955	4	0	104	15	0	0	0	0
1956	0	0	116	20	0	0	0	0
1957	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0
1962	1	0	14	2	0	0	0	0
1963	0	0	184	22	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	1	0	647	24	0	0	0	0
1967	0	0	484	17	0	0	0	0
1968	0	0	498	24	0	0	0	0
1969	1	0	497	33	0	0	0	0
1970	0	0	351	44	0	0	0	0
1971	0	0	384	53	0	0	0	0
1972	0	7	451	57	0	0	0	7

Table 19
(Continued)

Table 20

Field measurements of specific conductance, temperature, and dissolved oxygen of the North Santee River.

(Measurements by U. S. Geological Survey)

Date	Tide	Depth (in Feet)	Mile 8.0				Mile 7.0				Mile 6.0				Mile 10.5			
			Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
January 30, 1968	High	1	19,000	8.1	14.4	128	19,000	8.1	13.6	121	17,000	8.0	13.3	119	7,350	8.0	14.0	33
		2	21,000	8.1	12.4	111	19,000	8.1	14.0	126	17,000	8.0	13.5	121	7,300	7.8	14.7	128
		5	21,000	8.0	13.7	123	18,700	8.0	14.2	126	17,000	8.0	13.7	124	7,200	7.8	14.7	127
		7	21,000	8.0	13.8	123	18,700	8.2	13.8	123	17,000	8.0	13.7	124	7,100	7.8	14.7	128
		10	21,000	8.0	13.6	122	18,700	8.2	14.0	126	17,000	8.0	13.7	124	6,900	7.8	14.3	125
		12	21,000	8.0	13.5	121	18,700	8.1	14.0	126	17,000	8.0	13.7	124	6,900	7.8	14.2	125
		14	21,000	8.0	13.6	122	18,700	8.1	14.0	126	17,000	8.0	13.7	124	6,900	7.9	14.5	130
		17	21,000	8.0	13.6	122	18,700	8.1	14.0	126	17,000	8.0	13.7	124	--	--	--	--
		19	21,000	8.0	13.6	124	18,700	8.1	14.0	126	17,000	8.0	13.7	124	--	--	--	--
		22	--	--	--	--	--	--	--	--	17,000	--	13.7	124	--	--	--	--
		24	--	--	--	--	--	--	--	--	17,000	8.0	13.7	121	--	--	--	--
		26	--	--	--	--	--	--	--	--	17,000	8.0	13.7	124	--	--	--	--
		29	--	--	--	--	--	--	--	--	17,000	8.0	13.7	124	--	--	--	--

Date	Tide	Depth (in Feet)	Mile 11				Mile 10.5				Mile 17				Mile 15			
			Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
January 10, 1968	High	1	1,500	9.2	13.1	118	410	9.0	12.6	119	500	9.1	13.7	121	150	9.1	13.7	121
		3	3,000	9.2	13.8	122	415	9.1	13.7	121	510	9.2	13.8	122	--	--	--	--
		5	2,250	9.3	13.9	124	415	9.0	14.1	127	510	9.1	14.0	124	--	--	--	--
		7	2,000	9.3	13.8	123	420	9.1	13.9	124	515	9.2	13.9	123	--	--	--	--
		10	1,750	9.2	13.8	123	420	9.1	13.8	123	515	9.2	13.8	122	155	9.1	13.7	121
		12	1,600	9.2	13.8	123	420	9.1	13.8	123	515	9.3	13.8	122	--	--	--	--
		14	1,600	9.2	13.8	123	415	9.1	13.8	123	515	9.3	13.8	122	--	--	--	--
		16	1,650	9.2	13.8	123	415	9.1	13.8	123	515	9.3	13.8	122	--	--	--	--
		18	--	--	--	--	415	9.1	13.8	123	515	9.2	13.8	122	--	--	--	--
		20	--	--	--	--	415	9.1	13.8	123	515	9.2	13.8	122	--	--	--	--
		22	--	--	--	--	415	9.1	13.8	123	515	9.2	13.8	122	--	--	--	--
		24	--	--	--	--	415	9.1	13.8	123	515	9.2	13.8	122	--	--	--	--
		26	--	--	--	--	415	9.1	13.8	123	515	9.2	13.8	122	--	--	--	--
		28	--	--	--	--	415	9.1	13.8	123	515	9.2	13.8	122	--	--	--	--
		29	--	--	--	--	415	9.1	13.8	123	515	9.2	13.8	122	--	--	--	--

Date	Tide	Depth (in Feet)	Mile 10.5				Mile				Mile				Mile			
			Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
September 10, 1968	High	1	105	8.9	13.8	131												
		3	105	8.9	13.1	123												
		5	105	8.9	12.3	116												
		7	105	8.9	12.4	117												
		10	102	8.9	11.0	103												

FROM: "A Reconnaissance of Santee River Estuary, South Carolina" by T. Ray Cummings, 1970 (USGS Publication).

Field measurements of specific conductance, temperature, and dissolved oxygen of the North Santee River--continued.

(Measurements by U. S. Geological Survey)

Date	Tide	Depth (ft) from surface	Mile 5.0				Mile 6.0				Mile 7.0				Mile 8.0			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
January 10, 1969	Low	1	12,600	5.6	13.8	118	13,000	6.1	13.9	119	9,200	6.1	13.5	115	7,600	5.9	13.9	116
		3	12,600	5.6	14.0	119	13,000	6.0	13.7	117	9,500	6.1	13.5	115	7,600	--	13.1	109
		5	12,600	--	14.0	119	13,000	6.0	13.7	117	9,500	6.0	13.4	114	7,600	6.0	13.1	109
		7	12,600	5.6	14.0	119	13,000	6.0	13.7	117	15,000	6.0	13.1	110	7,600	--	13.1	109
		10	12,600	--	14.0	119	13,000	6.0	13.7	117	12,200	6.7	13.9	116	7,600	6.0	13.1	109
		12	12,600	5.6	13.8	117	13,000	--	13.7	117	12,000	6.7	13.9	116	7,600	--	13.1	109
		14	12,500	--	13.8	117	12,600	6.0	13.4	115	--	--	--	--	7,600	6.0	13.1	109
		16	12,500	5.7	13.5	115	12,600	6.0	13.4	115	--	--	--	--	7,600	6.0	13.2	110
		18	--	--	--	--	12,500	6.0	13.4	115	--	--	--	--	7,600	6.0	13.2	110
		20	--	--	--	--	12,500	6.0	13.4	115	--	--	--	--	7,600	6.0	13.2	110
		22	--	--	--	--	--	--	--	--	--	--	--	--	7,600	6.0	13.2	110
		24	--	--	--	--	--	--	--	--	--	--	--	--	7,600	6.1	13.2	110
		25	--	--	--	--	--	--	--	--	--	--	--	--	7,600	6.0	13.2	110

Date	Tide	Depth (ft) from surface	Mile 9.0				Mile 10				Mile 11				Mile 12			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
January 10, 1969	Low	1	370	6.1	13.4	119	385	6.0	13.9	121	354	7.0	13.4	119	333	6.0	13.0	111
		3	370	--	13.4	119	383	--	13.8	121	355	--	13.4	119	325	--	12.8	111
		5	366	6.1	13.8	117	381	6.0	13.9	121	355	8.0	13.8	119	328	6.0	14.2	118
		7	368	--	13.6	118	385	--	13.8	121	357	--	13.9	119	326	--	14.7	118
		10	366	6.0	13.6	117	386 2/	6.0	13.6	120	357	--	13.9	119	327 2/	6.0	14.0	118
		12	370	--	13.8	121	--	--	--	--	--	--	--	--	--	--	--	--
		14	369	6.0	13.8	121	--	--	--	--	--	--	--	--	--	--	--	--
		16	369	--	13.6	121	--	--	--	--	360	8.0	13.9	119	--	--	--	--
		18	369	6.0	13.8	121	--	--	--	--	--	--	--	--	--	--	--	--
		20	369	--	13.8	121	--	--	--	--	--	--	--	--	--	--	--	--
		22	369	6.0	13.8	121	--	--	--	--	--	--	--	--	--	--	--	--

Date	Tide	Depth (ft) from surface	Mile 13				Mile 14				Mile				Mile			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
January 10, 1969	Low	1	110	6.0	13.1	104	111	6.1	12.8	112								
		3	110	--	13.1	104	--	--	--	--								
		5	111	6.0	14.5	117	--	--	--	--								
		7	110	--	14.3	117	--	--	--	--								
		10	110 2/	--	14.2	114	--	--	--	--								
		13	110 2/	6.0	14.1	114	--	--	--	--								
		15	--	--	--	--	-- 2/	--	--	--								
		18	--	--	--	--	117 2/	--	12.8	112								
		20	--	--	--	--	--	--	--	--								
		22	--	--	--	--	119 2/	6.1	12.8	112								

Table 20
(Continued)

Table 20 (Continued)

Field measurements of specific conductance, temperature, and dissolved oxygen of the North Santee River--continued.

(Measurements by U. S. Geological Survey)

Date	Tide	Depth from surface	Mile 5.0				Mile 6.5				Mile 7.0				Mile 8.0			
			Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)
February 12, 1959	Low	1	8,810	10.1	8.6	91	8,000	10.4	8.7	93	1,850	10.8	8.6	91	276	10.8	9.7	90
		3	10,200	10.1	8.4	89	8,750	10.4	8.6	92	1,810	10.4	8.7	93	276	10.6	9.6	90
		5	10,700	10.0	8.4	89	9,150	10.4	8.6	92	2,230	11.2	8.6	93	275	10.6	9.8	90
		7	11,700	10.0	8.3	89	9,500	10.1	8.4	90	2,500	10.9	8.6	92	274	--	--	--
		10	12,400	9.8	8.2	87	9,800	10.1	8.4	90	3,800 a/	10.8	8.3	89	275	10.6	9.8	90
		11	12,700	9.8	8.2	87	9,900	10.1	8.4	90	4,580 a/	10.8	8.1	87	275	10.4	9.8	90
		13	13,000	9.8	8.2	87	9,900	10.1	8.4	90	--	--	--	--	275	--	--	--
		14	13,200	9.7	8.0	85	9,900	10.1	8.4	90	--	--	--	--	275	10.4	9.7	90
		15	--	--	--	--	9,900	10.1	8.4	90	--	--	--	--	274	10.3	9.7	90
		17	--	--	--	--	9,900	10.1	8.4	90	--	--	--	--	--	--	--	--
		19	--	--	--	--	9,900	10.1	8.4	90	--	--	--	--	--	--	--	--
		20	--	--	--	--	9,900	10.1	8.4	90	--	--	--	--	--	--	--	--
		21	--	--	--	--	9,900 a/	10.1	8.4	90	--	--	--	--	--	--	--	--

Date	Tide	Depth from surface	Mile 8.7				Mile 10				Mile 11				Mile 12			
			Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)
February 12, 1959	Low	1	148	10.4	10.4	93	145	10.6	10.7	95	110	10.9	10.4	92	111	10.7	10.9	96
		3	--	--	--	--	123	10.5	10.7	95	110	--	--	--	111	--	--	--
		5	--	10.5	--	--	122	--	--	--	117	10.9	10.4	92	111	10.5	10.6	95
		7	--	--	10.0	93	125	10.5	10.6	94	117	--	--	--	111	--	--	--
		10	148	--	--	--	124 a/	10.5	10.6	94	118	10.6	10.3	91	111	10.4	10.9	97
		15	--	--	--	--	--	--	--	--	116	--	--	--	112	10.4	10.6	94
		17	--	--	--	--	--	--	--	--	114	10.6	10.0	89	--	--	--	--
		18	--	--	--	--	--	--	--	--	116	10.8	10.2	91	--	--	--	--
		19	151	10.5	8.8	81	--	--	--	--	--	--	--	--	--	--	--	--
		20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		21	151	10.5	8.8	81	--	--	--	--	--	--	--	--	--	--	--	--
			159	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Tide	Depth from surface	Mile 13				Mile 14				Mile				Mile			
			Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)	Specific conductance (µs/cm at 25°C)	Temperature (°C)	Dissolved oxygen (mg/l)	Dissolved oxygen (percent saturation)
February 12, 1959	Low	1	111	10.4	10.1	97	107	10.6	11.0	102								
		3	110	--	--	--	110	--	--	--								
		5	110	10.5	10.3	97	119	10.6	10.9	101								
		7	110	--	--	--	120	--	--	--								
		10	110	10.5	10.5	97	119	10.6	10.7	99								
		13	110 a/	10.5	10.5	97	116	--	--	--								
		14	--	--	--	--	119	10.5	10.7	99								
		15	--	--	--	--	119	--	--	--								
		16	--	--	--	--	119	10.5	10.8	99								
		19	--	--	--	--	119	10.4	10.8	99								
		21	--	--	--	--	--	--	--	--								

Field measurements of specific conductance, temperature, and dissolved oxygen of the North Santee River--continued.

Table 20 (Continued)

(Measurements by U. S. Geological Survey)

Date	Tide	Depth (ft from surface)	Mile 5.0				Mile 5.5				Mile 7.0				Mile 8.0			
			Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
March 10, 1966	High	1	10,700	11.8	8.8	86	10,500	11.8	9.1	89	10,200	11.5	9.1	88	7,800	11.8	8.6	84
		7	10,700	11.8	8.8	86	10,400	11.7	9.0	88	10,000	11.5	9.1	88	8,200	11.8	8.8	86
		13	10,600	11.9	8.1	80	10,400	11.8	7.9	78	10,000	11.5	8.1	80	8,200	11.7	8.8	86
		7	10,600	11.9	8.7	86	14,000	11.8	8.9	88	11,000	11.5	9.1	88	7,900	11.8	8.6	84
		10	10,600	11.9	8.3	82	10,400	11.8	8.8	86	10,000	11.4	8.8	86	7,900	11.8	8.7	85
		12	10,600	11.7	8.3	81	10,400	11.8	8.7	86	12,600	11.5	8.8	86	7,900	11.8	8.6	84
		13	10,600	11.7	8.7	85	10,400	11.8	8.5	83	10,900	11.5	8.8	86	7,900	11.8	8.8	86
		16	10,600	11.7	8.8	86	10,400	11.5	8.8	86	--	--	--	--	7,900	11.8	8.8	86
		19	10,600	11.8	8.0	82	10,400	11.8	8.6	84	--	--	--	--	--	--	--	--
		20	--	--	--	--	10,400	11.8	8.8	86	--	--	--	--	--	--	--	--
		22	--	--	--	--	10,400	11.7	8.8	86	--	--	--	--	--	--	--	--

Date	Tide	Depth (ft from surface)	Mile 9.0				Mile 10				Mile 10.5				Mile 13			
			Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
March 10, 1966	High	1	1,080	11.8	10.1	98	930	11.8	10.1	98	490	11.8	10.1	97	140	11.8	10.1	100
		3	1,610	11.8	10.0	98	975	11.8	10.0	98	490	11.8	10.1	98	140	12.0	10.4	98
		5	1,750	11.7	9.8	95	970	11.8	9.8	97	490	11.8	10.1	97	141	11.9	10.5	100
		7	1,800	11.8	9.7	95	950	11.7	10.0	98	490	11.8	9.8	95	141	11.9	10.5	97
		10	1,790	11.5	9.6	94	900	11.6	10.0	98	490	11.7	10.0	97	141	11.6	10.2	98
		12	1,800	11.6	9.8	96	--	--	--	--	492	11.8	10.0	98	141	11.6	10.2	98
		14	1,810	11.6	9.8	96	--	--	--	--	--	--	--	--	141	11.6	10.2	98
		16	1,800	11.5	9.8	96	--	--	--	--	--	--	--	--	142	11.8	10.3	98
		18	1,800	11.5	9.8	96	--	--	--	--	--	--	--	--	142	11.8	9.9	94
		19	1,810	11.5	9.8	96	--	--	--	--	--	--	--	--	--	--	--	--
		20	1,810	11.5	9.8	96	--	--	--	--	--	--	--	--	--	--	--	--
		22	1,810	11.6	9.5	94	--	--	--	--	--	--	--	--	--	--	--	--

Date	Tide	Depth (ft from surface)	Mile 13				Mile 16				Mile				Mile			
			Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (in microsiemens at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
March 10, 1966	High	1	147	12.0	10.2	100	97	11.8	10.0	102								
		3	151	11.9	10.0	100	98	11.8	10.4	100								
		5	155	11.8	10.0	100	98	11.9	10.4	99								
		7	149	11.8	10.1	100	98	11.8	10.4	99								
		10	148	11.7	10.1	100	98	11.9	10.4	99								
		12	147	11.8	10.4	100	98	11.8	10.4	99								
		14	149	11.8	10.3	99	98	11.9	10.3	99								
		16	--	--	--	--	98	11.8	10.2	98								
		18	--	--	--	--	--	--	--	--								
		19	--	--	--	--	--	--	--	--								
		20	--	--	--	--	--	--	--	--								
		22	--	--	--	--	--	--	--	--								

(Measurements by U. S. Geological Survey)

Date	Time	Depth (in feet)	Site 5.0				Site 6.0				Site 7.0				Site 8.0			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
June 17, 1959	High	1	6,100	25.0	4.9	62	5,600	26.1	7.1	93	1,150	28.0	4.9	66	250	28.5	7.5	96
		3	7,000	27.5	5.5	69	5,600	26.5	6.9	91	1,900	26.0	6.8	90	330	28.0	7.0	93
		5	8,500	27.0	6.2	80	5,500	26.5	6.2	82	1,850	26.0	6.9	91	330	27.5	7.1	93
		7	9,600	25.5	6.2	77	6,000	27.5	6.3	82	2,100	27.5	6.7	91	330	27.5	7.0	95
		10	10,000	25.5	6.5	81	5,100	27.5	6.1	80	2,000	27.5	6.1	82	327	27.5	6.8	91
		12	10,000	27.4	6.5	86	6,400	27.4	6.3	84	2,100	27.5	6.5	86	330	27.5	6.8	91
		14	10,000	25.5	6.5	81	6,300	27.5	6.1	80	2,000	27.0	6.4	83	330	27.5	6.7	89
		16	--	--	--	--	6,200	27.5	6.1	80	--	--	--	--	325	27.5	6.5	87
		18	--	--	--	--	6,300	27.5	6.1	80	--	--	--	--	330	27.5	6.2	78
		20	--	--	--	--	6,200	27.5	6.1	80	--	--	--	--	334	27.5	6.1	81
		23	--	--	--	--	6,200	27.5	6.1	80	--	--	--	--	330	27.5	6.1	79

Date	Time	Depth (in feet)	Site 8.6				Site 9.0				Site 10				Site 11			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
June 19, 1959	High	1	420	27.0	7.0	92	140	27.5	7.2	92	130	27.5	7.1	91	122	27.5	7.0	90
		3	331	27.5	7.0	92	140	27.5	7.1	92	135	27.5	6.9	91	125	27.5	6.9	90
		5	335	28.5	7.1	95	140	28.5	7.1	93	137	27.5	6.9	91	124	27.5	6.9	90
		7	335	27.5	7.0	93	135	27.5	7.1	93	137	27.5	6.7	88	130	27.5	6.9	90
		10	335	27.5	6.9	92	135	27.5	7.1	93	135	27.5	6.8	89	130	27.5	6.8	89
		12	335	27.5	6.9	92	135	27.5	7.0	92	135	27.4	6.7	88	130	27.5	6.9	90
		14	330	27.5	6.7	89	140	27.5	7.1	93	--	--	--	--	130	27.5	6.9	90
		16	335	27.5	6.8	91	140	27.5	7.1	93	--	--	--	--	130	27.5	6.9	90
		18	335	27.5	6.8	91	140	27.5	7.1	93	--	--	--	--	130	27.5	6.9	90
		20	335	27.5	6.8	91	140	27.5	7.1	93	--	--	--	--	130	27.5	6.9	90
		23	--	--	--	--	140	27.5	7.1	93	--	--	--	--	130	27.5	6.9	90

Date	Time	Depth (in feet)	Site 12				Site 13				Site 14				Site			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
June 19, 1959	High	1	91	27.5	7.2	93	90	27.5	7.1	91	90	27.5	7.1	91	90	27.5	7.7	99
		3	91	27.5	7.2	92	90	27.5	7.0	91	89	27.5	7.0	91	89	27.5	7.0	91
		5	91	27.5	6.8	87	89	27.5	6.8	87	91	27.5	7.0	90	91	27.5	7.0	90
		7	91	27.1	6.8	87	89	27.5	6.7	85	89	27.5	7.0	91	89	27.5	7.0	91
		10	88	27.0	6.7	85	90	27.5	6.8	86	90	27.5	7.0	91	90	27.5	7.0	91
		12	89	27.1	6.8	86	89	27.5	6.5	83	89	27.1	7.0	90	89	27.1	7.0	90
		14	91	27.0	6.8	86	90	27.0	6.6	84	87	27.0	6.7	86	87	27.0	6.7	86
		16	89	27.0	6.8	86	--	--	--	--	88	27.5	6.7	86	88	27.5	6.7	86
		18	--	--	--	--	--	--	--	--	86	27.5	6.6	84	86	27.5	6.6	84
		20	--	--	--	--	--	--	--	--	87	27.5	6.6	84	87	27.5	6.6	84
		23	--	--	--	--	--	--	--	--	90	27.5	6.6	84	90	27.5	6.6	84

Date	Time	Depth (in feet)	Site 5.0				Site 6.6				Site 7.0				Site 9.0			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
July 16, 1959	High	1	10,700	26	--	--	27,000	33	--	--	19,000	28	--	--	14,400	30	--	--
		12	10,600	24	--	--	24,000	30	--	--	19,000	28	--	--	12,000	27	--	--

1/ Measurements of specific conductance, temperature, and dissolved oxygen at Site 12 were at a depth of 14 feet rather than 16 feet as indicated. The following footnotes also indicate the depths of measurement if different from that indicated in the table: 2/ 9 feet; 3/ 11 feet; 4/ 15 feet; 5/ 19 feet; 6/ 18 feet; 7/ 11 feet; 8/ 8 feet; 9/ 11 feet; 10/ 15 feet; 11/ 15 feet; 12/ 11 feet; 13/ 15 feet; and 14/ 19 feet.

Table 21

Field measurements of specific conductance, temperature, and dissolved oxygen of the South Santee River.

Measurements by U. S. Geological Survey

Date	Time	Depth (ft) from surface	Site 8.8 Specific conductance (micromhos at 25°C)	Site 8.8 Temperature (°C)	Site 8.8 Dissolved Oxygen (mg/l)	Site 8.8 Dissolved Oxygen (percent saturation)	Site 8.1 Specific conductance (micromhos at 25°C)	Site 8.1 Temperature (°C)	Site 8.1 Dissolved Oxygen (mg/l)	Site 8.1 Dissolved Oxygen (percent saturation)	Site 7.5 Specific conductance (micromhos at 25°C)	Site 7.5 Temperature (°C)	Site 7.5 Dissolved Oxygen (mg/l)	Site 7.5 Dissolved Oxygen (percent saturation)	Site 10.4 Specific conductance (micromhos at 25°C)	Site 10.4 Temperature (°C)	Site 10.4 Dissolved Oxygen (mg/l)	Site 10.4 Dissolved Oxygen (percent saturation)
December 13, 1966	High	1	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		2	27,000	8.0	10.7	96	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		5	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		7	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		10	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		12	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		14	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		16	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		18	27,000	8.0	10.8	97	30,000	7.9	10.4	94	32,000	7.9	10.4	94	5,200	8.0	10.9	97
		20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Time	Depth (ft) from surface	Site 11 Specific conductance (micromhos at 25°C)	Site 11 Temperature (°C)	Site 11 Dissolved Oxygen (mg/l)	Site 11 Dissolved Oxygen (percent saturation)	Site 9 Specific conductance (micromhos at 25°C)	Site 9 Temperature (°C)	Site 9 Dissolved Oxygen (mg/l)	Site 9 Dissolved Oxygen (percent saturation)	Site 10.5 Specific conductance (micromhos at 25°C)	Site 10.5 Temperature (°C)	Site 10.5 Dissolved Oxygen (mg/l)	Site 10.5 Dissolved Oxygen (percent saturation)	Site 10.5 Specific conductance (micromhos at 25°C)	Site 10.5 Temperature (°C)	Site 10.5 Dissolved Oxygen (mg/l)	Site 10.5 Dissolved Oxygen (percent saturation)
December 13, 1966	High	1	6,400	8.0	11.0	93	7,800	7.9	11.2	93	5,000	8.2	11.4	94	510	8.2	11.1	91
		3	6,100	8.0	11.0	93	7,800	7.9	11.0	91	5,100	8.1	11.1	92	510	8.1	10.9	90
		5	6,200	8.0	11.0	93	7,800	7.9	11.0	91	5,100	8.1	11.1	92	505	8.1	10.9	90
		7	6,200	8.0	11.0	93	7,800	7.9	11.0	91	5,100	8.1	11.1	92	505	8.1	10.9	90
		9	6,200	8.0	11.0	93	7,800	7.9	11.0	91	5,100	8.1	10.8	89	505	8.1	10.9	90
		11	--	--	--	--	--	--	--	--	--	--	--	--	505	8.1	10.9	90
		13	--	--	--	--	--	--	--	--	--	--	--	--	510	8.1	11.1	91
		15	--	--	--	--	--	--	--	--	--	--	--	--	525	8.1	10.7	89
		17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Time	Depth (ft) from surface	Site 14 Specific conductance (micromhos at 25°C)	Site 14 Temperature (°C)	Site 14 Dissolved Oxygen (mg/l)	Site 14 Dissolved Oxygen (percent saturation)	Site 1 Specific conductance (micromhos at 25°C)	Site 1 Temperature (°C)	Site 1 Dissolved Oxygen (mg/l)	Site 1 Dissolved Oxygen (percent saturation)	Site Specific conductance (micromhos at 25°C)	Site Temperature (°C)	Site Dissolved Oxygen (mg/l)	Site Dissolved Oxygen (percent saturation)	Site Specific conductance (micromhos at 25°C)	Site Temperature (°C)	Site Dissolved Oxygen (mg/l)	Site Dissolved Oxygen (percent saturation)
December 13, 1966	High	1	215	8.0	11.4	93	197	8.0	11.7	97								
		3	210	8.0	11.4	92	197	8.0	11.7	97								
		5	208	8.0	11.4	92	--	--	--	--								
		7	215	8.0	11.4	93	--	--	--	--								
		10	214	8.0	11.4	93	--	--	--	--								
		12	--	--	--	--	--	--	--	--								
		14	--	--	--	--	--	--	--	--								
		16	--	--	--	--	--	--	--	--								
		18	--	--	--	--	--	--	--	--								
		20	--	--	--	--	--	--	--	--								

FROM: "A Reconnaissance of Santee River Estuary, South Carolina" by T. Ray Cummings, 1970 (USGS Publication).

Field measurements of specific conductance, temperature, and dissolved oxygen of the South Santee River--continued.

(Measurements by U. S. Geological Survey)

Date	Time	Depth (ft) from surface	Site 6.7				Site 6.8				Site 10.5				Site 11			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
October 14, 1959	Low	1	14,000	5.0	15.1	127	5,000	5.4	13.7	116	1,500	5.4	13.1	110	200	5.0	15.1	129
		3	14,000	5.0	15.1	127	2,750	5.4	13.7	116	1,500	5.4	13.1	110	195	5.4	15.8	134
		5	13,800	5.0	14.9	125	4,100	5.4	13.7	116	1,700	5.4	13.1	110	185	--	15.8	134
		7	14,000	5.1	14.5	125	5,000	5.4	13.8	117	2,000	5.4	13.1	110	215	5.4	15.8	134
		10	14,000	5.0	14.5	121	--	--	--	--	5,000	5.4	12.9	108	410	5.5	15.8	135
		12	14,000	5.0	14.5	121	--	--	--	--	--	--	--	--	--	--	--	--
		13	14,000	5.0	14.8	123	--	--	--	--	--	--	--	--	--	--	--	--

Date	Time	Depth (ft) from surface	Site 12				Site 8.1				Site 14				Site			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
October 16, 1959	Low	1	200	5.6	15.7	130	100	5.4	13.8	116	115	6.0	14.0	120				
		3	200	5.6	15.7	130	--	--	--	--	--	--	--	--				
		5	200	--	15.7	130	100	5.6	13.8	116	145	6.0	14.0	120				
		7	200	5.6	15.7	130	--	--	--	--	--	--	--	--				
		10	200	5.6	15.7	130	--	--	--	--	--	--	--	--				
		12	--	--	--	--	--	--	--	--	--	--	--	--				
		13	--	--	--	--	--	--	--	--	--	--	--	--				

Date	Time	Depth (ft) from surface	Site 5.8				Site 6.7				Site 7.0				Site 8.9			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
October 15, 1959	Low	1	18,000	5.1	12.9	108	14,000	5.1	13.2	107	11,400	5.4	12.9	108	7,000	5.4	12.9	104
		3	21,000	5.0	12.4	103	15,000	5.1	13.2	106	12,100	5.1	12.8	105	9,100	--	12.9	104
		5	22,000	5.3	12.4	104	15,000	5.2	13.2	107	13,000	5.1	12.8	106	10,400	5.5	12.8	103
		7	22,000	5.2	12.3	103	17,000	5.2	13.4	109	14,000	--	--	110	11,400	--	12.4	104
		10	22,000	5.4	12.2	103	18,000	5.2	13.4	107	15,000	5.1	12.5	105	12,000	5.1	12.3	102
		12	22,500	5.4	12.3	103	--	--	--	--	16,400	5.1	12.4	103	11,900	--	12.2	102
		15	22,500	5.4	12.2	103	--	--	--	--	--	--	--	--	12,500	5.2	12.3	101
		17	--	--	--	--	--	--	--	--	--	--	--	--	13,000	--	12.3	101
		18	--	--	--	--	--	--	--	--	--	--	--	--	14,100	5.2	12.3	102
		19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 21 (Continued)

Table 21 (Continued)

Field measurements of specific conductance, temperature, and dissolved oxygen of the South Santee River--continued.

(Measurements by U. S. Geological Survey)

Date	Time	Depth (ft) (feet)	Site 9.9				Site 10				Site 11				Site 12			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
January 15, 1958	1pm	1	6,900	8.6	10.0	104	4,700	9.0	9.9	107	650	9.0	10.9	116	474	8.9	10.6	114
		3	7,100	8.2	10.1	104	2,310	--	--	--	730	--	--	--	358	--	--	--
		5	7,200	8.3	10.0	103	2,240	9.0	9.9	107	740	8.8	10.4	107	500	8.8	10.4	106
		7	7,190	8.0	10.0	100	2,270	--	9.1	107	710	8.4	10.7	109	501	--	10.4	106
		10	--	--	--	--	2,410	8.8	9.8	104	690	8.4	10.6	107	504	8.8	10.2	108
		13	--	--	--	--	2,710	--	9.9	104	--	--	--	--	855	8.6	10.8	108

Date	Time	Depth (ft) (feet)	Site 13				Site 14				Site				Site			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
January 15, 1958	1pm	1	191	8.2	10.8	100	155	8.2	11.6	111								
		3	179	--	10.8	100	149	8.2	11.6	110								
		5	180	8.3	10.8	100	145	8.2	11.6	110								
		7	183	--	10.8	100	140	8.3	11.6	110								
		10	191	8.2	10.8	100	--	--	--	--								
		13	191	--	10.8	100	--	--	--	--								
		14	194	8.3	10.8	100	--	--	--	--								
		15	194	--	10.8	100	--	--	--	--								
		18	194	--	10.8	100	--	--	--	--								
		19	194	8.1	10.8	100	--	--	--	--								

Date	Time	Depth (ft) (feet)	Site 5.0				Site 6.1				Site 7.0				Site 8.0			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
February 11, 1958	1pm	1	20,400	9.2	8.0	81	19,800	9.1	7.4	75	18,000	9.2	8.4	85	7,200	9.2	8.5	86
		3	21,000	9.2	8.0	81	19,400	9.1	7.4	75	18,000	9.2	8.4	85	7,200	9.2	8.5	86
		5	21,000	9.2	8.0	81	19,400	9.0	7.4	75	18,000	9.1	8.4	85	7,200	9.2	8.5	86
		7	21,000	9.2	7.9	80	19,200	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.2	8.5	86
		10	20,800	9.1	8.0	81	19,000	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		13	20,800	9.0	8.0	80	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		15	20,800	9.0	8.0	80	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		18	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		19	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		20	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		21	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		22	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		23	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		24	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		25	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		26	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		27	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		28	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		29	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		30	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		31	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		32	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		33	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		34	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		35	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		36	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		37	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		38	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		39	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		40	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		41	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		42	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		43	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		44	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		45	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		46	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		47	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		48	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		49	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		50	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		51	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		52	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		53	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		54	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		55	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		56	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		57	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		58	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		59	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		60	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		61	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		62	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		63	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		64	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		65	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		66	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		67	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		68	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		69	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		70	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		71	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		72	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		73	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		74	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		75	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		76	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		77	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		78	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		79	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		80	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		81	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		82	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		83	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		84	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		85	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		86	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		87	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		88	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		89	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		90	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		91	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		92	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		93	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		94	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		95	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		96	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		97	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		98	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		99	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		100	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		101	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		102	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		103	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		104	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		105	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		106	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		107	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		108	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		109	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		110	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		111	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		112	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		113	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		114	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		115	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		116	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		117	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		118	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		119	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		120	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		121	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		122	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		123	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		124	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		125	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		126	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		127	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		128	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		129	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		130	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		131	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		132	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		133	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		134	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		135	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		136	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		137	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		138	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		139	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		140	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		141	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		142	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		143	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		144	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		145	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		146	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		147	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		148	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		149	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		150	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		151	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		152	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		153	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
		154	20,800	8.9	8.0	79	18,800	8.9	7.3	74	18,000	9.1	8.3	84	7,200	9.1	8.4	85
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--Field measurements of specific conductance, temperature, and dissolved oxygen of the South Santee River--continued.

(Records in ft by U. S. Geological Survey)

Date	Tide	Depth (in feet)	Mile 3.0				Mile 5.0				Mile 7.0				Mile 8.0			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
Feb 20, 1959	High	1	35,000	12.0	5.4	67	34,000	12.1	6.1	83	34,000	12.0	5.8	80	33,000	12.0	5.5	69
		5	35,000	12.0	5.7	80	34,000	12.1	6.4	87	34,000	12.0	6.8	94	33,000	12.0	6.3	69
		6	35,000	12.5	5.7	80	34,000	12.1	6.4	88	34,000	12.0	6.5	90	33,000	12.0	5.3	67
		9	35,000	12.5	7.5	90	34,000	12.1	6.4	88	34,000	12.0	6.5	90	33,000	12.0	5.3	67
		10	34,000	12.5	8.2	95	33,000	12.1	6.6	87	33,000	12.0	6.4	89	33,000	12.0	5.4	68
		13	35,000	12.5	8.7	91	33,000	12.1	6.6	88	33,000	12.0	6.4	89	33,000	12.0	5.4	68
		14	--	--	--	--	33,000	12.1	6.7	89	--	--	--	--	--	--	--	--
		16	--	--	--	--	33,000	12.1	6.7	89	--	--	--	--	--	--	--	--
		17	--	--	--	--	33,000	12.1	6.7	89	--	--	--	--	--	--	--	--

Date	Tide	Depth (in feet)	Mile 9.0				Mile 10				Mile 11				Mile 12			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
Feb 20, 1959	High	1	8,000	12.0	6.8	81	7,800	12.1	6.0	87	7,800	12.0	6.0	83	900	11.1	8.2	90
		2	8,000	12.0	6.8	81	7,800	12.1	6.0	88	7,800	12.0	6.0	83	900	11.0	8.0	87
		5	8,000	12.0	6.7	80	7,800	12.1	6.0	87	7,800	12.0	6.0	83	900	11.0	8.0	87
		7	8,000	12.5	6.5	80	7,800	12.1	6.0	87	7,800	12.0	6.0	83	900	11.0	8.0	87
		10	8,000	12.5	6.5	80	7,800	12.1	6.0	87	7,800	12.0	6.0	83	900	11.0	8.0	87
		12	--	--	--	--	7,800	12.1	6.0	87	7,800	12.0	6.0	83	900	11.0	8.0	87
		14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Tide	Depth (in feet)	Mile 13				Mile 14				Mile				Mile			
			Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°F)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific Conductance (micromhos at 25°C)	Temperature (°F)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
Feb 20, 1959	High	1	150	11.7	9.2	90	150	11.7	9.1	89								
		3	150	11.8	9.2	91	150	11.7	9.1	89								
		5	140	11.9	9.1	91	135	11.7	8.9	87								
		7	150	11.8	9.0	91	--	--	--	--								
		10	145	11.9	9.1	87	--	--	--	--								
		11	--	--	--	--	--	--	--	--								
		14	--	--	--	--	--	--	--	--								
		16	--	--	--	--	--	--	--	--								
		17	--	--	--	--	--	--	--	--								

Table 21
(Continued)

Field measurements of specific conductance, temperature, and dissolved oxygen of the South Santee River--continued.

(Measurements by U. S. Geological Survey)

Date	Time	Depth (ft)	Site 5.5				Site 6.0				Site 7.0				Site 8.0			
			Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)
June 17, 1969	0545	1	32,000	28.4	6.1	85	35,500	27.8	6.8	93	13,900	27.5	6.9	91	4,000	27.8	7.4	98
		5	32,000	28.3	6.1	85	35,000	28.2	6.8	94	14,000	28.0	6.9	95	4,000	27.8	7.3	97
		8	34,000	28.2	6.0	83	29,000	28.1	6.5	89	13,000	27.9	6.1	84	11,000	28.1	7.4	98
		9	35,000	27.7	5.6	78	30,000	28.0	6.4	88	17,000	28.0	6.1	83	11,000	27.8	7.2	95
		10	35,000	28.0	5.7	80	41,000	28.4	6.5	90	15,000	28.0	6.3	86	17,000	27.8	6.5	86
		13	35,000	28.2	6.1	84	--	--	--	--	14,000	28.0	6.1	83	17,000	27.8	6.8	90
		14	35,000	28.2	6.0	84	--	--	--	--	14,000	28.0	6.1	83	17,000	27.8	6.8	90
		15	--	--	--	--	--	--	--	--	--	--	--	--	14,000	27.8	7.0	93

Date	Time	Depth (ft)	Site 8.5				Site 10				Site 11				Site 12			
			Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)
June 18, 1969	0745	1	4,000	28.1	7.1	94	2,000	28.2	6.7	89	500	28.5	7.5	99	400	27.5	7.8	102
		5	4,000	28.1	7.1	94	2,000	28.2	6.8	90	500	28.4	6.9	91	400	27.5	7.8	102
		8	4,000	28.0	7.2	94	2,000	27.4	6.5	85	1,000	28.0	6.8	90	400	27.5	7.6	99
		9	4,000	28.0	7.1	93	2,000	27.4	6.4	84	1,000	28.0	6.7	88	400	27.5	7.6	99
		10	4,000	28.0	6.8	89	2,000	27.4	6.4	84	1,000	27.9	6.7	87	710	27.5	7.6	99
		13	--	--	--	--	--	--	--	--	--	--	--	--	--	27.4	7.6	99
		14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
		15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Time	Depth (ft)	Site 13				Site 14				Site				Site			
			Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)	Specific Conductance (micromhos at 25°C)	Water Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (Percent saturation)
June 17, 1969	0745	1	191	28.0	7.4	94	191	28.0	7.4	94								
		5	194	27.9	7.0	89	193	28.0	7.3	92								
		8	203	28.0	7.1	91	193	28.0	6.8	86								
		9	210	28.0	6.8	87	193	27.9	6.7	84								
		10	205	28.0	6.7	85	--	--	--	--								
		13	204	28.0	6.6	83	--	--	--	--								
		14	--	--	--	--	--	--	--	--								
		15	--	--	--	--	--	--	--	--								

Field measurements of specific conductance, temperature, and dissolved oxygen of the South Santee River--(continued).

(Measurements made by U. S. Geological Survey)

Date	Time	Depth (ft)	Site 6.0				Site 8.0				Site 7.0				Site 8.0			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Depth (ft)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
July 10, 1959	High	1	[illegible]	28.9	--	--	34,000	1	--	--	[illegible]	29.4	--	--	33,000	--	--	--
		9	--	--	--	--	--	6	--	--	--	--	--	--	--	--	--	--
		10	--	--	--	--	--	7	--	--	--	--	--	--	--	--	--	--
		11	--	--	--	--	--	8	--	--	--	--	--	--	--	--	--	--
		12	--	--	--	--	--	9	--	--	--	--	--	--	--	--	--	--
		13	--	--	--	--	--	10	--	--	--	--	--	--	--	--	--	--
		14	--	--	--	--	--	11	--	--	--	--	--	--	--	--	--	--
		15	--	--	--	--	--	12	--	--	33,000	29.4	--	--	--	--	--	--
		16	34,000	29.5	--	--	--	13	--	--	--	--	--	--	--	--	--	--
		17	--	--	--	--	34,000	14	--	--	--	--	--	--	--	--	--	--

Date	Time	Depth (ft)	Site 5.0				Site 10				Site 11				Site 12			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Depth (ft)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
July 10, 1959	High	1	34,000	29.5	--	--	33,000	2.5	--	--	7,500	31.4	--	--	4,500	29.5	--	--
		9	--	--	--	--	--	6	--	--	--	--	--	--	--	--	--	--
		10	--	--	--	--	--	7	--	--	7,700	29.4	--	--	--	--	--	--
		11	34,000	29.4	--	--	--	8	--	--	--	--	--	--	--	--	--	--
		12	--	--	--	--	--	9	--	--	--	--	--	--	5,200	29.4	--	--
		13	--	--	--	--	33,000	9.5	--	--	--	--	--	--	--	--	--	--

Date	Time	Depth (ft)	Site 13				Site 14				Site 15				Site 16			
			Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)	Specific conductance (micromhos at 25°C)	Temperature (°C)	Dissolved Oxygen (mg/l)	Dissolved Oxygen (percent saturation)
July 10, 1959	High	1	1,500	29.5	--	--												
		7	1,500	29.5	--	--												

1/ Measurements of specific conductance, temperature, and dissolved oxygen at site 5.4 were at a depth of 6 feet rather than 10 feet as indicated. The following footnotes indicate the depths of measurements if different from that indicated in the table: 2/ 10 feet; 3/ 6 feet; 4/ 11 feet; 5/ 4 feet; 6/ 6 feet; 7/ 11 feet; 8/ 6 feet; 9/ 9 feet; 10/ 11 feet; 11/ 8 feet; 12/ 11 feet; 13/ 9 feet; and 14/ 9 feet.

(Cont inued)

Table 2

Table 22

Chemical and physical properties of water of the Santee River estuary, S. C.

From reference no. 5

A Checklist of Saltwater Fishes Found off the Coast of Georgetown and Charleston Counties, South Carolina

Common name	Scientific name
Sixgill shark	Hexanchus griseus (Bonnaterre)
Sand shark	Carcharias taurus Rafinesque
White shark	Carcharodon carcharias (Linnaeus)
Basking shark	Cetorhinus maximus (Gunnerus)
Porbeagle	Lamna nasus (Bonnaterre)
Bigeye thresher	Alopias superciliosus (Lowe)
Thresher shark	Alopias vulpinus (Bonnaterre)
Nurse shark	Ginglymostoma cirratum (Bonnaterre)
Chain dogfish	Scyliorhinus retifer (Garman)
Finetooth shark	Aprionodon isodon (Muller and Henle)
Sickle shark	Carcharhinus falciformis (Muller and Henle)
Blacknose shark	Carcharhinus acronotus (Poey)
Bull shark	Carcharhinus leucas (Muller and Henle)
Blacktip shark	Carcharhinus limbatus (Muller and Henle)
Whitetip shark	Carcharhinus longimanus (Poey)
Spinner shark	Carcharhinus maculipinnis (Poey)
Sandbar shark	Carcharhinus milberti (Muller and Henle)
Dusky shark	Carcharhinus obscurus (LeSueur)
Tiger shark	Galeocerdo cuvieri (Peron and LeSueur)
Night shark	Hypocentrus signatus (Poey)
Smooth dogfish	Mustelus canis (Mitchill)
Lemon shark	Negaprion brevirostris (Poey)
Blue shark	Prionace glauca (Linnaeus)
Atlantic sharpnose shark	Rhizoprionodon porosus (Poey)
Scalloped hammerhead	Sphyrna lewini (Griffith)
Great hammerhead	Sphyrna mokarran (Rüppell)
Bonnethead shark	Sphyrna tiburo (Linnaeus)
Smooth hammerhead	Sphyrna zygaena (Linnaeus)
Kitefin shark	Dalatias licha (Bonnaterre)
Spiny dogfish	Squalus acanthias Linnaeus
Florida dogfish	Squalus floridanus Mitina
Atlantic angel shark	Squatina dumeril LeSueur
Smalltooth sawfish	Pristis pectinatus Latham
Atlantic guitarfish	Rhinobatos lentiginosus (Garman)
Lesser electric ray	Narcine brasiliensis (Olfers)
Atlantic torpedo	Torpedo nobiliana Bonaparte
Southern stingray	Dasyatis americana Hildebrand and Schroeder
Roughtail stingray	Dasyatis centroura (Mitchill)
Atlantic stingray	Dasyatis sabina (LeSueur)
Bluntnose stingray	Dasyatis say (LeSueur)
Smooth butterfly ray	Gymnura micrura (Bloch and Schneider)
Spotted eagle ray	Aetobatus narinari (Euphrasen)
Millnose ray	Mylobatis freminvillei LeSueur
Cownose ray	Rhinoptera bonasus (Mitchill)
Atlantic manta	Manta birostris (Walbaum)
Devil ray	Mobula hypostoma (Bancroft)
Shortnose sturgeon	Acipenser brevirostrum LeSueur

Table 23
(Continued)

Sail-fin flyingfish	Parexocoetus brachypterus (Richardson)
Bluntnose flyingfish	Prognichthys glaphyrena (Valenciennes)
Mummichog	Fundulus heteroclitus (Linnaeus)
Striped killifish	Fundulus majalis (Walbaum)
Sheepshead minnow	Cyprinodon variegatus(Lacepede)
Mosquito fish	Gambusia affinis (Baird and Girard)
Sailfin molly	Mollienesia latipinna(LeSueur)
Carolina hake	Urophycis earlii Bean
Southern hake	Urophycis floridanus (Bean and Dresel)
Spotted hake	Urophycis regius (Walbaum)
Spotted seahorse	Hippocampus erectus Perry
Northern pipefish	Syngnathus fuscus Storer
Squirrelfish	Holocentrus ascensionis (Osbeck)
Deepwater squirrelfish	Holocentrus bullisi Woods
Dusky squirrelfish	Holocentrus vexillarius (Poey)
Deepbody boarfish	Antigonia capros Lowe
Snook	Centropomus undecimalis (Bloch)
Bank sea bass	Centropristes ocyurus (Jordan and Evermann)
Rock sea bass	Centropristes philadelphicus (Linnaeus)
Black sea bass	Centropristes striatus (Linnaeus)
Sand perch	Diplectrum formosum (Linnaeus)
Speckled hind	Epinephelus drummondhayi Goode and Bean
Red hind	Epinephelus guttatus (Linnaeus)
Jewfish	Epinephelus itajara (Lichtenstein)
Red grouper	Epinephelus morio (Valenciennes)
Warsaw grouper	Epinephelus nigritus (Holbrook)
Snowy grouper	Epinephelus niveatus (Valenciennes)
Gag	Mycteroperca microlepis (Goode and Bean)
Scamp	Mycteroperca phenax Jordan and Swain
Creole-fish	Paranthias furcifer (Valenciennes)
Tattler	Serranus phoebe (Poey)
White perch	Morone americana (Gmelin)
Striped bass	Morone saxatilis (Walbaum)
Soapfish	Rypticus saponaceus (Bloch and Schneider)
Belted sandfish	Serranus subligarius (Cope)
Tripletail	Lobotes surinamensis (Bloch)
Mutton snapper	Lutjanus analis (Cuvier)
Red snapper	Lutjanus aya (Bloch)
Gray snapper	Lutjanus griseus (Linnaeus)
Silk snapper	Lutjanus vivanus (Cuvier)
Blank grouper	Mycteroperca bonaci (Poey)
Vermilion snapper	Rhomboplites aurorubens (Cuvier)
No common name	Pristigenys meilleuris (Goode and Bean)
Short bigeye	Pristigenys alta (Gill)
Flamefish	Apogon maculatus (Poey)
Twospot cardinal fish	Apogon pseudomaculatus Longley
Southern tilefish	Caulolatilus microps Goode and Bean
Tilefish	Lopholatilus chamaeleonticeps Goode and Bean
Sand tilefish	Malacanthus plumieri (Bloch)
Bluefish	Pomatomus saltatrix (Linnaeus)
Cobia	Rachycentron canadum (Linnaeus)
Yellow jack	Caranx bartholomaei Cuvier

Table 23
(Continued)

Atlantic sturgeon	Acipenser oxyrhynchus Mitchill
Longnose gar	Lepisosteus osseus (Linnaeus)
Ladyfish	Elops saurus Linnaeus
Tarpon	Megalops atlantica Valenciennes
Blueback herring	Alosa aestivalis (Mitchill)
Hickory shad	Alosa mediocris (Mitchill)
Alewife	Alosa pseudoharengus (Wilson)
American shad	Alosa sapidissima (Wilson)
Yellowfin shad	Brevoortia smithi Hildebrand
Atlantic menhaden	Brevoortia tyrannus (Latrobe)
Atlantic herring	Clupea harengus harengus Linnaeus
Gizzard shad	Dorosoma cepedianum (LeSueur)
Atlantic round herring	Etrumeus sadina (Mitchill)
Atlantic thread herring	Opisthonema oglinum (LeSueur)
Spanish sardine	Sardinella anchovia Valenciennes
Striped anchovy	Anchoa hepsetus hepsetus (Linnaeus)
Dusky anchovy	Anchoa lyolepis(Evermann and Marsh)
Bay anchovy	Anchoa mitchilli (Valenciennes)
Silver anchovy	Anchovietta curvatole (Swain and Meek)
Largescale lizardfish	Saurida normani Longley
Shortjaw lizardfish	Saurida normani Longley
Inshore lizardfish	Synodus foetens (Linnaeus)
Sand diver	Synodus intermedius (Agassiz)
Snakefish	Trachinocephalus myops (Forster)
Longnose lancetfish	Alepisaurus ferox Lowe
Gafftopsail catfish	Bagre marinus (Mitchill)
Sea catfish	Galeichthys felis (Linnaeus)
White catfish	Ictalurus catus (Linnaeus)
American eel	Anguilla rostrata (LeSueur)
Spotted moray	Gymnothorax moringa (Cuvier)
No common name	Gymnothorax saxicola Jordan and Davis
Reticulate moray	Muraena retifera Goode and Bean
Bandtooth conger	Ariosoma impressa (Poey)
Conger eel	Conger oceanicus (Mitchill)
Speckled worm eel	Myrophis punctatus Lutken
Shrimp eel	Ophichthus rosenl (Castelnau)
Palespotted eel	Ophichthus ocellatus (LeSueur)
Finless eel	Verma kendalli (Gilbert)
Atlantic saury	Scomberesox saurus (Walbaum)
Flat needlefish	Ablennes hians (Valenciennes)
Atlantic needlefish	Strongylura marina (Walbaum)
Keeltail needlefish	Belone argalus (LeSueur)
Redfin needlefish	Strongylura notata (Poey)
Agujon	Tylosurus acus (Lacepede)
Houndfish	Tylosurus raphidoma (Ranzani)
Flying halfbeak	Euleptorhamphus velox Poey
Bajno	Hemiramphus balao LeSueur
Ballyhoo	Hemiramphus brasiliensis (Linnaeus)
Halfbeak	Hyporhamphus unifasciatus (Ranzani)
Margine flying fish	Cypselurus cyanopterus (Valenciennes)
Atlantic flyingfish	Cypselurus heterurus (Rafinesque)
Fourwing flyingfish	Hirundichthys affinis (Gunter)

Table 23
(Continued)

Blue runner	Caranx crysos (Mitchill)
Crevalle jack	Caranx hippos (Linnaeus)
Horse-eye jack	Caranx fusus (Geoffroy and Hilaire)
Bar jack	Caranx ruber (Bloch)
Bumper	Chloroscombrus chrysurus (Linnaeus)
Mackerel scad	Decapterus macarellus (Cuvier)
Round scad	Decapterus punctatus (Agassiz)
Rainbow runner	Elagatis bipinnulatus (Quoy and Gaimard)
Bluntnose jack	Hemicaranx amblyrhynchus (Cuvier)
Pilotfish	Naucrates ductor (Linnaeus)
Leatherjacket	Oligoplites saurus (Bloch and Schneider)
Bigeye scad	Selar crumenophthalmus (Bloch)
Lookdown	Selene vomer (Linnaeus)
Greater amberjack	Seriola dumerili (Risso)
Almaco jack	Seriola falcata Valenciennes
Lesser amberjack	Seriola fasciata (Bloch)
Banded rudderfish	Seriola zonata (Mitchill)
Pompano	Trachinotus carolinus (Linnaeus)
Permit	Trachinotus falcatus (Linnaeus)
Rough scad	Trachurus lathami Nichols
Atlantic moonfish	Vomer setapinnis (Mitchill)
Pompano dolphin	Coryphaena equiselis Linnaeus
Dolphin	Coryphaena hippurus Linnaeus
Irish pompano	Diapterus olisthostomus (Goode and Bean)
Spotfin mojarra	Eucinostomus argenteus Baird and Girard
Silver jenny	Eucinostomus gula (Quoy and Gaimard)
Mottled mojarra	Ulaema lefroyi (Goode)
Patao	Eugerres brasilianus (Valenciennes)
Tomtate	Haemulon aurolineatum (Cuvier)
Fresh grunt	Haemulon flavolineatum (Desmarest)
White grunt	Haemulon plumieri (Lacepede)
Pigfish	Orthopristis chrysoptera (Linnaeus)
Freshwater drum	Aplodinotus grunniens Rafinesque
Silver perch	Bairdiella chrysoura (Lacepede)
Spotted seatrout	Cynoscion nebulosus (Cuvier)
Silver seatrout	Cynoscion nothus (Holbrook)
Weakfish	Cynoscion regalis (Bloch and Schneider)
Cubbyu	Equetus acuminatus (Bloch and Schneider)
Jackknife-fish	Equetus lanceolatus (Linnaeus)
Spotted drum	Equetus punctatus (Bloch and Schneider)
No common name	Equetus umbrosus (Jordan and Eigenmann)
Banded drum	Larimus fasciatus Holbrook
Spot	Leiostomus xanthurus Lacepede
Southern kingfish	Menticirrhus americanus (Linnaeus)
Gulf kingfish	Menticirrhus littoralis (Holbrook)
Northern kingfish	Menticirrhus saxatilis (Bloch and Schneider)
Atlantic croaker	Micropogon undulatus (Linnaeus)
Black drum	Pogonias cromis (Linnaeus)
Red drum	Sciaenops ocellata (Linnaeus)
Star drum	Stellifer lanceolatus (Holbrook)
Red goatfish	Mullus auratus Jordan and Gilbert
Spotted goatfish	Pseudupeneus maculatus (Bloch)
Sheepshead	Archosargus probatocephalus (Walbaum)

Grass porgy	Calamus arctifrons Goode and Bean
Jolthead porgy	Calamus bajonado (Bloch and Schneider)
Saucereye porgy	Calamus calamus (Valenciennes)
Whitebone porgy	Calamus leucosteus Jordan and Gilbert
Littlehead porgy	Calamus proridens Jordan and Gilbert
Spottail pinfish	Diplodus holbrooki (Bean)
Pinfish	Lagodon rhomboides (Linnaeus)
Red porgy	Pagrus pagrus Gmelin
Longspine porgy	Stenotomus aurinus Bean
Scup	Stenotomus chrysops (Linnaeus)
Knobbed porgy	Calamus nodosus ??
Yellow chub	Kyphosus incisor (Cuvier)
Bermuda chub	Kyphosus sectatrix (Linnaeus)
Atlantic spadefish	Chaetodipterus faber (Broussonet)
Bank butterflyfish	Chaetodon aya Jordan
Spotfin butterflyfish	Chaetodon ocellatus Bloch
Reef butterflyfish	Chaetodon sedentarius Poey
Banded butterflyfish	Chaetodon striatus Linnaeus
Queen angelfish	Holacanthus ciliaris (Linnaeus)
Common angelfish	Holacanthus isabelita (Jordan and Ritter)
French angelfish	Pomacanthus arcuatus (Linnaeus)
Sergeant major	Abudefduf saxatilis (Linnaeus)
Tautog	Tautoga onitis (Linnaeus)
Slippery dick	Halichoeres bivittatus (Bloch)
Painted wrasse	Hoplichoeres cyanotis (Poey)
Hogfish	Lachnolaimus maximus (Walbaum)
Pearly razorfish	Xyrichthys psittacus (Linnaeus)
Emerald parrotfish	Nicholsina usta (Valenciennes)
Doctorfish	Acanthurus chirurgus (Bloch)
Atlantic cutlassfish	Trichiurus lepturus Linnaeus
Wahoo	Acanthocybium solandri (Cuvier)
Frigate mackerel	Auxis thazard(Lacepede)
Little tuna	Euthynnus alletteratus (Rafinesque)
Skipjack tuna	Euthynnus pelamis (Linnaeus)
Atlantic bonito	Sarda sarda (Bloch)
Chub mackerel	Scomber colias Gmelin
Atlantic mackerel	Scomber scombrus Linnaeus
King mackerel	Scomberomorus cavalla (Cuvier)
Spanish mackerel	Scomberomorus maculatus (Mitchill)
Cero	Scomberomorus regalis (Bloch)
Yellowfin tuna	Thunnus albacares (Bonnaterre)
Blackfin tuna	Thunnus atlanticus (Lesson)
Bigeye tuna	Thunnus obesus Lowe
Bluefin tuna	Thunnus thynnus (Linnaeus)
Atlantic sailfish	Istiophorus platypterus (Shaw and Nodder)
White marlin	Tetrapturus albidus (Poey)
Blue marlin	Makaira nigricans Lacepede
Swordfish	Xiphias gladius Linnaeus
Highfin scorpionfish	Pontinus rathbuni Goode and Bean
Longfin scorpionfish	Scorpaena grandicornis Goode and Bean
Goosehead scorpionfish	Scorpaena brasiliensis Cuvier and Marsh
Fat sleeper	Dactylator maculatus (Bloch)

Table 23
(Continued)

Highfin goby	Gobionellus oceanicus (Pallas)
Barbfish	Scorpaena brasiliensis Cuvier
Smalthead scorpionfish	Scorpaena calcarata Goode and Bean
Spotted scorpionfish	Scorpaena plumieri Bloch
Shortfin sea robin	Bellator brachychir (Regan)
Streamer sea robin	Prionotus pectoralis Nichols and Breder)
Horned sea robin	Bellator militaris (Goode and Bean)
Spiny sea robin	Prionotus alatus Goode and Bean
Northern sea robin	Prionotus carolinus (Linnaeus)
Striped sea robin	Prionotus evolans (Linnaeus)
Bandtail sea robin	Prionotus ophryas Jordan and Swain
Bluespotted sea robin	Prionotus roseus Jordan and Evermann
Leopard sea robin	Prionotus scitulus Jordan and Gilbert
Bighead sea robin	Prionotus tribulus Cuvier
Flying gurnard	Dactylopterus volitans (Linnaeus)
Northern stargazer	Astroscopus guttatus Abbot
Southern stargazer	Astroscopus y-graecum (Cuvier)
Lancer stargazer	Kathetostoma albigutta (Bean)
Feather blenny	Hypsoblennius hentzi (LeSueur)
Bank cusk-eel	Ophidion holbrooki (Putnam)
Polka-dot cusk-eel	Otophidium omostigmum (Jordan and Gilbert)
Striped cusk-eel	Rissola marginata (DeKay)
Shortbearded cusk-eel	Lepophidium brevibarbe (Cuvier)
Southern hake	Urophycis floridana (Bean)
Butterfish	Peprilus triacanthus (Peck)
Bigeye squaretail	Tetragonurus atlanticus Lowe
Great barracuda	Sphyraena barracuda (Walbaum)
Northern pennot	Diplectrum bivittatum DeKay
Guaguanche	Sphyraena guachancho Cuvier
Striped mullet	Mugil cephalus Linnaeus
White mullet	Mugil curema Valenciennes
Rough silverside	Membras martinica Ingolfata (Swain)
Tidewater silverside	Menidia beryllina (Cope)
Atlantic silverside	Menidia menidia menidia (Linnaeus)
Atlantic threadfin	Polydactylus octonemus (Girard)
Ocellated flounder	Ancylopsetta quadrocellata Gill
Eyed flounder	Bothus ocellatus (Agassiz)
Bay whiff	Citharichthys gilbertus Gunther
Spotfin flounder	Cyclopsetta fimbriata(Goode and Bean)
Shrimp flounder	Gastropsetta frontalis Bean
Gulf flounder	Paralichthys albigutta Jordan and Gilbert
Fringed flounder	Etropus crossotus Jordan and Gilbert
Smallmouth flounder	Etropus microstomus (Gill)
Gray flounder	Etropus rimosus Goode and Bean
Summer flounder	Paralichthys dentatus (Linnaeus)
Southern flounder	Paralichthys lethostigma Jordan and Gilbert
Broad flounder	Paralichthys squamilentus Jordan and Gilbert
Windowpane	Scophthalmus aquosus (Mitchill)
Dusky flounder	Syacium papillosum (Linnaeus)
Blackcheek tonguefish	Symphurus plagiusa (Linnaeus)
Hogchoker	Trinectes maculatus (Bloch and Schneider)
Sharksucker	Echeneis naucrates Linnaeus

Table 23
(Continued)

Slender suckerfish	Phtheirichthys lineatus (Menzies)
Spearfish remora	Remora brachyptera (Lowe)
Remora	Remora remora (Linnaeus)
Unicorn filefish	Alutera monoceros (Linnaeus)
No common name	Alutera monnoloti Hollard
Orange filefish	Alutera schoepfi (Walbaum)
Scrawled filefish	Alutera scripta (Osbeck)
Gray triggerfish	Balistes carolinus Gmelin
Queen triggerfish	Balistes vetula Linnaeus
Orangespotted filefish	Cantherines pullus (Ranzani)
Rough triggerfish	Canthidermis maculatus (Bloch)
Fringed filefish	Monacanthus ciliatus (Mitchill)
Planehead filefish	Monacanthus hispidus (Linnaeus)
Pygmy filefish	Stephanolepis setifer (Bennett)
Slender filefish	Monacanthus tuckeri Bean
Sargassum triggerfish	Xanthichthys rigens (Linnaeus)
Cowfish	Acanthostracion quadricornis (Linnaeus)
Trunkfish	Lactophrys triqueta (Linnaeus)
Smooth puffer	Lagocephalus laevigatus (Linnaeus)
Marbled puffer	Spheroides dorsalis Longley
Northern puffer	Sphoeroides maculatus (Bloch and Schneider)
Southern puffer	Sphoeroides nephelus (Goode and Bean)
Spotted burrfish	Chilomycterus atinga (Linnaeus)
Striped burrfish	Chilomycterus schoepfi (Walbaum)
Balloonfish	Diodon holocanthus Linnaeus
Porcupinefish	Diodon hystrix Linnaeus
Ocean sunfish	Mola mola (Linnaeus)
Oyster toadfish	Opsanus tau (Linnaeus)
Atlantic midshipman	Porichthys porosissimus (Valenciennes)
Goosefish	Lophius americanus Valenciennes
Ocellated frogfish	Antennarius ocellatus (Bloch and Schneider)
Sargassumfish	Histrio histrio (Linnaeus)
Spiny batfish	Halieutichthys aculeatus (Mitchill)
Polka-dot batfish	Ogcocephalus radiatus (Mitchill)
Longnose batfish	Ogcocephalus vespertilio (Linnaeus)

From reference no. 14

Table 24

A Check List of Commerically Important Shellfishes found off the Coast of Georgetown and Charleston Counties, South Carolina

Common Name	Scientific Name
Oyster	Crassostrea virginica
Hard clam	Mercenaria mercenaria
Conchs	Busycon Spp
Blue crab	Callinectes sapidus
Stone crab	Menippe mercenaria
Brown shrimp	Penaeus aztecus
White shrimp	Penaeus setiferus
Spotted shrimp	Penaeus duorarum
Spotted shrimp	Penaeus brasiliensis

From reference no. 14

Figure 23

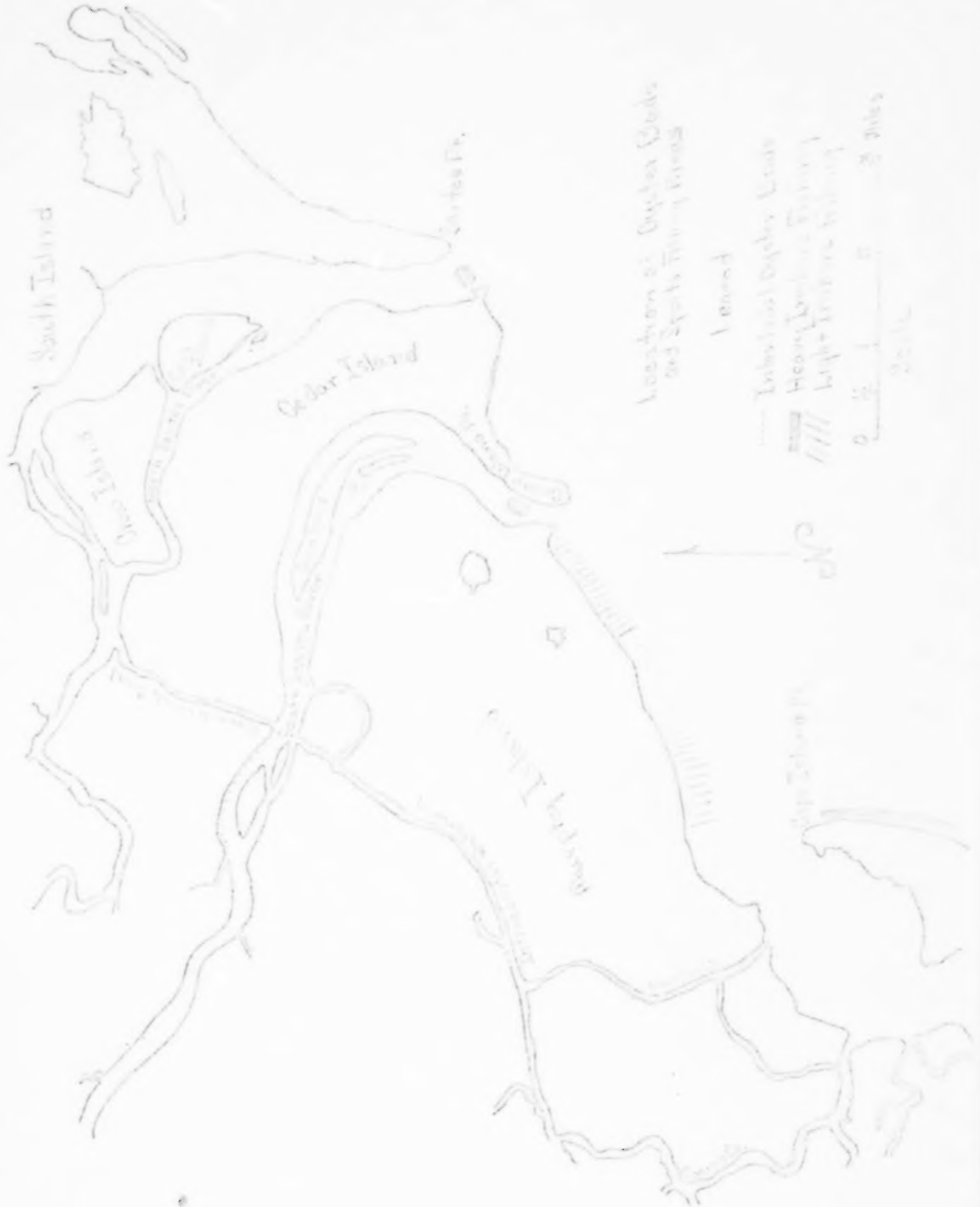
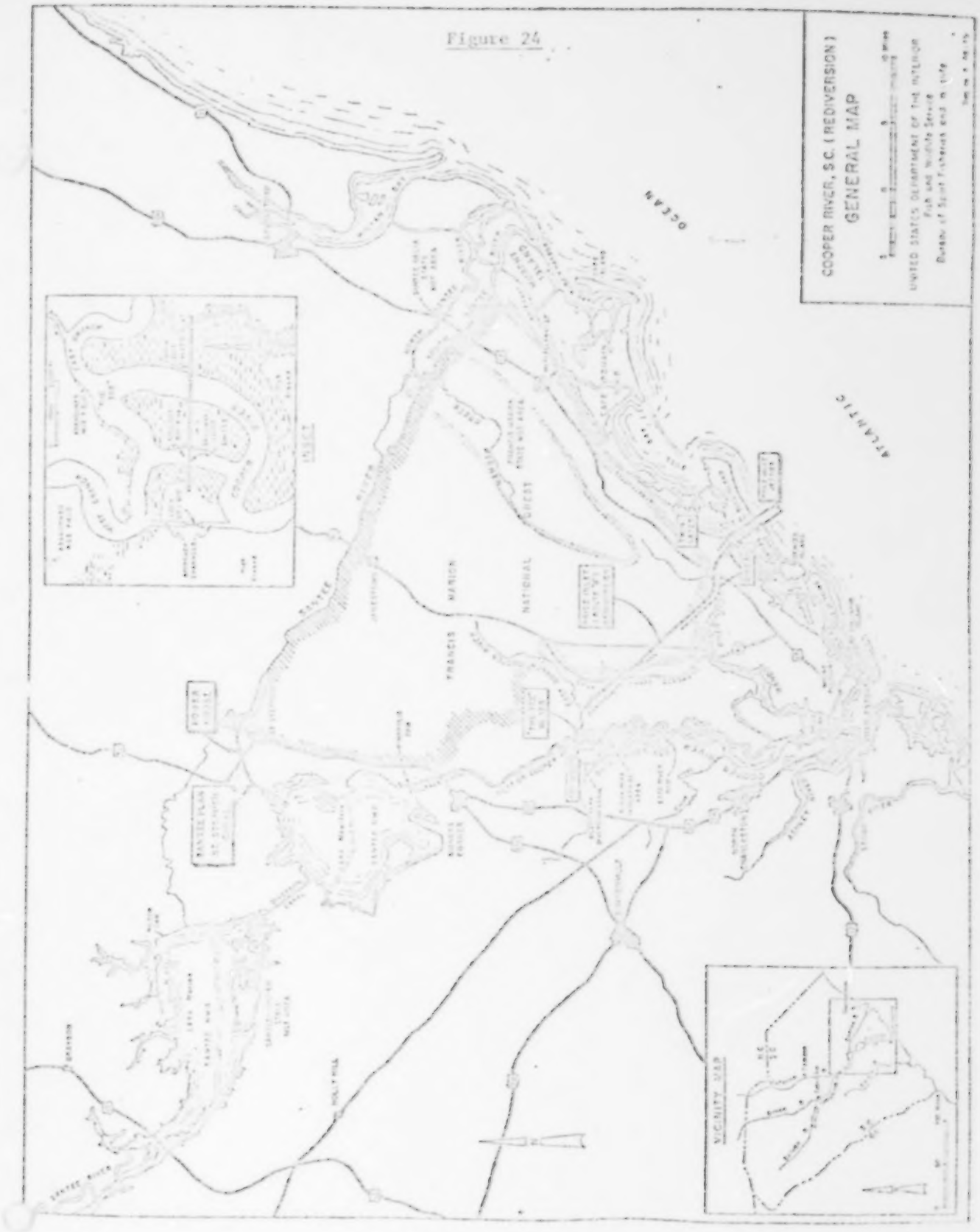


Figure 24


COOPER RIVER, S.C. (REDIVERSION)
GENERAL MAP
OCEAN
ATLANTIC
FRANCIS MARION NATIONAL FOREST
VICINITY MAP